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1915

AS MORE MEN ASSOCIATED WITH THE MINING AND ALLIED INDUSTRIES WILL BE ASSEMBLED DURING THE WEEK OF THE MINING CONGRESS CONVENTION THIS YEAR'S MEETING OFFERS ESPECIAL ADVANTAGES

JULY, 1915

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THE MINING CONGRESS JOURNAL

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To the Members of the American Mining Congress:

Do you know that you are the owners and publishers of the MINING CONGRESS JOURNAL? We trust you will realize the responsibility of this ownership and that you will lend your active assistance in making the Journal a greater success.

Real mining men should be active members. An application blank will be found on another page of this issue.

Associate memberships are designed for those not actively interested in mining, but who are willing to assist a state Chapter of the Mining Congress in helping to develop the Mining industry within the State. All memberships include subscription to the MINING CONGRESS JOURNAL.

Every member of the Mining Congress should undertake to send in at least one application each month. Will you help by having the following blank filled in and mail to this office?

SUBSCRIPTION AND APPLICATION FOR ASSOCIATE MEMBERSHIP
IN THE
AMERICAN MINING CONGRESS

.....191.....

I hereby make application for Associate Membership in THE AMERICAN MINING CONGRESS, and agree, if accepted, to abide by the By-Laws, Rules and Regulations of said organization and to pay the dues required by same. Herewith find $1.00 fee and $2.00 dues for one year, including subscription to the Mining Congress Journal ($1.00 of which is designated as subscription to Journal).

Name.....

Occupation .....

P. O. Address.....

.....

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GREATEST COPPER MINE IN THE WORLD

Property of the Utah Copper Company near Salt Lake City. See article on page 350

VOL. I, No. 7 WASHINGTON JULY, 1915

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

TEN IMPORTANT COMPANIES ARE COMBINED TO UNDERWRITE COAL RISKS

Coal Mine Insurance Association Formed with Herbert M. Wilson at its Head. New Director Has Been Active in Bureau of Mines Work— Low Rates to be Premium for Safety Methods.

Ten strong American and British insurance companies have associated themselves for the joint underwriting of coal mine accident insurance. Herbert M. Wilson has been selected as the director of the new association. Mr. Wilson is the engineer who has had charge of the Pittsburgh experiment station of the Bureau of Mines. He has been associated with the inception and development of this bureau. Previous to the formation of the Bureau of Mines, Mr. Wilson was chief geographer in the Geological Survey. The insurance organization he will head is to be known as the Coal Mine Insurance Association.

IMPORTANT WORK

It is the opinion here that the formation of this insurance association is an event of unusual importance in the coal mining industry. It will have a very great influence with regard to safety work in mining, it is believed.

The formation of the association is to meet the necessity imposed on mine operators by workmen's compensation legislation.

It has been demonstrated to the satisfaction of insurance men throughout the country that State insurance bureaus cannot safely risk general coal mining hazards. They cover too limited a territory to allow the untrammeled working of the law of averages. In many States the insurance bureaus have no intention of competing with legitimate private insurance business and are perfectly willing to withdraw if fair rates and ample protection is offered by private companies. It also has been shown that mutual insurance associations are not qualified to offer reasonable rates of insurance to coal mines.

COOPERATION NECESSARY

Due to the possibility of a great catastrophe, the stock companies have been very slow to underwrite coal mine risks. They realize that separately they could not offer reasonable rates. This objection promises to be overcome, however, by the union of strong companies.

The companies associated in the Coal Mine Insurance Association are as follows: The Aetna Accident and Liability Company, Hartford, Conn.; Aetna Life Insurance Company, Hartford, Conn.; The Employers' Liability Assurance Corporation, Ltd., of London, Eng., United States Branch, Boston, Mass.; Hartford Accident and Indemnity Company, Hartford, Conn.; London Guarantee & Accident Co., Ltd., of London, Eng., United States Branch, Chicago, Ill.; Maryland Casualty

HERBET M. WILSON
Director of the Coal Mine Insurance Association

Company, Baltimore, Md.; The Ocean Accident & Guarantee Corporation, Ltd., of London, Eng., United States Branch, New York, N. Y.; The Standard Accident Insurance Company, of Detroit, Mich.; The Travelers' Indemnity Company, Hartford, Conn.; The Travelers' Insurance Company, Hartford, Conn.

LOW RATES OBTAINABLE

One of the important features of the work of the Coal Mine Insurance Association is the organization of mine inspection which will be qualified thoroughly to pass on the risks. It is the announced intention to encourage the adoption of safety measures in mining by the quoting of low rates where precautions are taken for the safety of the men and for the minimizing of chances for damaging the property.

Mine owners have been worried in the calculation of their costs by the unknown element of workmen's compensation. It has been impossible to anticipate what charges must be made against production as a result of casualties. This new organization will make possible the stabilization of this item of the cost of production.

HAVE HUGH ASSETS

The companies forming the association represent combined capital and surplus of more than $62,000,000 and combined assets of over $255,000,000. In the selection of a director the companies felt the necessity of securing a man who is known in the mining industry and who has had no affiliation with any insurance company or other business organization. Mr. Wilson has been very prominent in the Government's work in the interest of the mining industry and is recognized as a man of very decided ability. He has been interested greatly in the adoption of safety practices in mining.

One of the claims of the company is that the association intends to make rates so low that no profit shall accrue to it. Any profit derived is to come from the investment of its funds.

DR. HOLMES PLEASED

Among those who have expressed great satisfaction at the organization is Dr. Joseph A. Holmes, Director of the Bureau of Mines. If the company is directed properly he believes that it will be an important factor in having introduced into mines those safety measures developed by the Federal Bureau which are of advantage to workmen and operators alike.

The assistance of mine operators, of State operators and of mine workers is to be solicited in overcoming the difficulties in developing a satisfactory schedule of rates in every State having a workmen's compensation law.

Mr. Wilson was educated in mining as well as civil engineering, graduated from the School of Mines, Columbia University, New York. He has spent the last eight years in developing mining experiments, including the use of explosives, experimental investigations in electricity and lighting, and especially in the mine safety, mine rescue and first-aid operations of the Federal Bureau of Mines.

Evidencing his interest and activity in matters of safety, he is on the Advisory Council of the Underwriter's Laboratory, Chicago; he is one of the organizers and is on the Executive Committee of the National Safety Council, and was the first president and is now the secretary-treasurer of the American Mine Safety Association. He is familiar with the coal mining industry in every State, having personal knowledge of many of the mines.

WAR HURRIES DEVELOPMENT OF CHROMIUM DEPOSITS

Development of chromium deposits in the United States is making rapid progress as a result of the war, which has cut off the foreign supply. California is the source of the greater part of the chromic iron ore in the United States although its production in other States is increasing.

Chromic is used extensively in lining furnaces. It fuses at a very high temperature.

It is a source of green and yellow dyes. It is used in the tanning of leather and is employed extensively in the manufacture of steel to increase its hardness. J. S. Diller, of the Geological Survey, predicts that the development of this metal will increase rapidly in the United States.

ALL ZINC IN COPPER ORES ARE HELD TO BE DUTIABLE

Customs Appraisers Hand Down Decision Overruling Protest of United Metals Refining Co.

An important decision in the matter of zinc in zinc-bearing ores has just been rendered by the United States General Appraisers. The ruling was made as a result of a protest by the United Metals Refining Company against the assessment of duty. The appraisers find that the zinc content, in the amount specified, is dutiable regardless of the fact that the zinc may not be recoverable commercially and may be a decided detriment in that it reduces the value of the copper ores.

General Appraiser Fischer rendered the opinion, which is, in part, as follows:

The merchandise in question consists of containing zinc in percentages varying from 3.60 to 7.30 per cent. Duty was levied on the zinc content at the rate of 10 per cent. ad valorem—upon an appraised valuation thereof at 4 cents per pound—under the provisions of Paragraph 162 of the act of 1913, and the importer claims that said ore is properly entitled to free entry under the provisions of Paragraph 461 of said act on the ground that the quantity of zinc contained therein is negligible and not capable of being recovered or used.

An analysis of the ore contained in the various shipments in question was made by a chemist in the loboratory attached to the office of the appraiser at the port of New York, and upon the basis of his returns the assessment here complained of was made. That official, as well as the United States examiner attached to the same office, and who passed the ores in question, testified that the quantity of zinc contained in said ores was negligible.

There is also before us uncontradicted testimony that in smelting copper ores it is commercially impossible to recover zinc where the percentage thereof is as low as it is shown to be in the merchandise at bar; that as matter of fact the presence of zinc in such small quantities actually proves to be a detriment rather than an advantage, in that it tends materially to lessen the value of the copper ores. As corroborative of this view, counsel for the importer invites attention to a circular issued by the Treasury Department and published as T. D. 34,280, wherein classifying officers are advised to appraise as of no value ores containing zinc in quantities found not to be commercially recoverable, or where it is shown that the zinc content actually proves to be a detriment to the extent of lessening the value of the ores.

Counsel for the Government contends that the protests should be overruled, for two reasons: (1) That, inasmuch as the zinc content was appraised at 4 cents per pound, it cannot now be held to be of no commercial value; (2) that the provisions of law were intended to apply to and cover the zinc content as found in the ore in its imported condition, without reference to the quantity thereof, which may or may not be determined to be commercially recoverable.

The question of the dutiability of the zinc content of ores was affirmatively decided by this board in G. A. 7.049 (T. D. 30,727), said ruling being subsequently upheld by the United States Court of Customs Appeals in Consolidated Kansas City Smelting & Refining Co. v. United States (1 Ct. Cust. Appls., 472; T. D. 31,509). That case arose under the tariff act of 1909, and involved the question whether ore containing lead and zinc, the latter over 10 per cent., was properly classifiable for duty based upon the ascertained quantities of both metals, the lead under Paragraph 181 and the zinc under paragraph 193 of said act. After quoting at considerable length from the testimony to show "that ores may be both zinc-bearing ores and lead-bearing ores, and that each of the ores may be recovered and the ore profitably manipulated for their recovery by the process of concentration and smelting several ores by the appropripriate method, the court further said:

". . . It is very clear from this that it was within the contemplation of Congress that ores which required mechanical treatment to concentrate them in preparation for the retort used in reclaiming the zinc should be dutiable in their crude state. Indeed, this language requires that all ores containing a greater quantity than 10 per cent. of zinc must be treated as zinc ores and assessed under Paragraph 193. As is pointed out by the Board of General Appraisers in their opinion, Congress has provided for a duty on the metal content of ores rather than on the recovered metal itself."

In enacting Paragraph 162 of the present act it is clearly manifest that Congress intended not only to adopt as correct the judicial interpretation of the language of Paragraph 193 of the act of 1909, but to further narrow its applicability and scope. Hence, we find omitted from the present paragraph this provision "containing less than 10 per centum of zinc" found in its predecessor in the act of 1909. There can, therefore, be no question whatever concerning the congressional intention to impose a duty of 10 per cent. ad valorem upon zinc-bearing ores of all kinds, including calamine, regardless of the quantity of zinc which may

or may not be shown to be commercially recoverable.

In United States v. Marsching (1 Ct. Cust. Appls., 216; T. D. 31,257), Judge De Vries, speaking for the court, said:

"We do not think that in a case like this where the essential words supporting the construction contended for have been expressly omitted by Congress, the courts can by any rule or method of construction read back into the act such words."

This rule was recently followed by this board in the matter of the protest of Carl Fischer, decided in G. A. 7,722 (T. D. 35,382), wherein certain catgut strings composed in chief value of silk were held to be properly duitable as manufactures of silk under Paragraph 318 of the present act, as assessed, rather than as strings for musical instruments under Paragraph 373 of said act, as claimed. It developed in that case that Congress deliberately omitted from the present Paragraph 373 the provision for strings for musical instruments, not otherwise enumerated which appeared in Paragraph 467 of the act of 1909, but left therein the provision for strings for musical instruments, composed wholly or in part of steel or other metal. This change in language clearly manifested the Congressional intention to limit the provision in the present act solely to the latter class of strings. The board there found support, as we do here, in the well settled principle of law that "expressio unius est exclusio alterius."

We do not consider the other ground of objection advanced by Government counsel as worthy of serious consideration. If his contentions were sound, no protest claiming free entry could be sustained, inasmuch as all such protests are lodged against an assessment of duty levied as a result of an appraisement and determination of the dutiable value of merchandise.

The protests are accordingly overruled and the decisions of the collector are affirmed.

DEMAND FOR NITRATES PROMISES TO INCREASE

Increasing amounts of nitrate are passing through the Panama Canal from Chilian ports to Atlantic coast points and to Europe. Reports to the Panama Canal office here indicate that nitrate will continue to move through the canal in increasing quantities. This is due to the cutting off of the European supply of fertilizer material.

Coal is moving through the canal from Baltimore and Newport News to Peru and Chili and to Pacific ports of the United States.

Some copper from western ports of the United States is passing through the canal destined to Europe and to Atlantic ports of the United States. Antimony is moving from Chili to Liverpool. A small lot of bismuth moved from Antofagasta to Liverpool. Iron ore to the amount of 14,704 tons moved from Cruz Grande to Philadelphia.

E. F. BURCHARD
Geologist just promoted to be head of non-metal division of the U. S. Geological Survey

E. F. BURCHARD HEADS GEOLOGICAL SURVEY SECTION

As a result of the resignation of Edward W. Parker, statistician and chief of the Mineral Resources Division of the Geological Survey, and the general promotions which have been made as a consequence, E. F. Burchard has been selected as geologist-in-charge of the non-metals section.

Mr. Burchard secured his training at Lehigh and Northwestern Universities. He was connected with the Wisconsin Survey after completing his scholastic work. He entered the service of the Federal Survey in 1904.

He stands high with mining engineers throughout the country as a result of his work on the economic geology of Appalachian iron ore. He did some notable work on the lead and zinc ores of Arkansas and Wisconsin. In addition, he has made studies of various problems having to do with manganese.

Referring to Mr. Burchard's appointment, George Otis Smith, director of the Survey, said: "Mr. Burchard is one of the men who has come forward from time to time with progressive ideas for the improvements of mineral resource reports."

Coal Exports Increase

Figures from the Department of Commerce show that coal and coke are being exported at a considerably greater rate than for the corresponding period of last year.

INCREASED PROSPECTING IS EXPECTED TO DEVELOP MORE PLATINUM

Discovery of This Rare Metal in Nevada Has Led to Extended Search for Greater American Supply—Government Geologist Reports on Investigations—Boss Deposit Differs from Others.

Judging from information reaching the Geological Survey more prospecting is being done for platinum in the United States at the present time than ever before. In part this activity is due to the reduction of exports of this metal from Russia. Much impetus, however, has been given the movement by the discovery of several important deposits of platinum in Nevada and California.

DISCOVERIES EXPECTED

At the Geological Survey, Adolph Knopf is devoting a great deal of his time to the study of platinum. He is the author of Bulletin 620 issued last month, which treats on recently discovered platinum in southern Nevada. He is of the impression that platinum exists in many places in the United States and he will not be surprised if several important deposits are discovered as a result of the present prospecting activity.

Owing to the increasing use of platinum in laboratories, in jewelry and by dentists, as well as by arts and industries the demand for this metal is certain to increase.

With reference to his recent work on the Nevada platinum, Mr. Knopf has made the following synopsis:

NEVADA DEPOSITS

Platinum and palladium were found in 1914 to be present in certain of the ores of the Yellow Pine Mining District, in Clark County, Nev. The first, and by far the most important discovery, was made at the Boss Mine, and later in the year platinum was found to occur also in the ore of the Oro Amigo Mine.

The ore deposit on the Boss Claim was discovered some thirty years ago, having been located for copper, the presence of which is plainly indicated by chrysocolla and other oxidized copper minerals. In the nineties a leaching plant was built at Goodsprings, twelve miles from the mine, and an attempt was made to treat the oxidized copper ore, but the process proved a failure. Not until recently was the gold and platinum content of the ore recognized. The failure to recognize, or at least fully to appreciate, the gold-bearing character of the ore seems to have been due to the fact that much of the gold is very finely divided and cannot be obtained by panning, and also to the fact that some of the extraordinarily rich material when panned yields a black residue that might easily be and probably was thrown away as worthless black sand. Systematic sampling of the deposit early in 1914 led to full recognition that gold is present in valuable amount, and it was during the course of this sampling that the platinum and palladium content of the ore was discovered.

THE BOSS DEPOSIT

The deposit at the Boss Mine consists of a fine-grained quartz mass, which forms in the main an irregular replacement of carboniferous dolomites along a series of vertical fractures. A small mass or dike of granite porphyry intrudes the dolomite about 600 feet north of the mine, but no basic intrusives occur; in fact none are known to occur in the whole district, which is the most productive lead zinc district in Nevada. The ore bodies so far developed may be briefly characterized as oxidized copper shoots and gold-platinum-palladium shoots. The copper ores consist largely of chrysocolla and other oxidized compounds, but these ores carry only minor amounts of the precious metals. The gold-platinum-palladium shoots consist of a fine-grained quartzose ore containing a small quantity of a bismuth-bearing variety of the rare metal, plumbo-jarosite (a hydrous sulphate of iron and lead).

CARRIES GOLD AND SILVER

The principal ore shoot, so far as present workings disclose, forms an irregular pipe pitching at a low angle to the northeast. In this shoot from 1,000 to 2,000 tons of ore had been developed at the time of visit, which average in ounces to the ton: gold, 3.46; silver, 6.4; platinum, 0.70, and palladium, 3.38. The precious metals are especially associated with the plumbojarosite; pockets of the pure mineral carry 100 ounces or more of platinum and palladium and several hundred ounces of gold to the ton. This exceeding richness points to a concentration of the precious metals in the oxidized ore by surface solutions, so that in depth the pockets of extremely high grade ore, such as are now being extracted, will give place to ore of moderate grade. The only sulphide so far found in the mine is chalcocite, and this is probably of secondary origin.

DIFFERS FROM OTHERS

The gold-platinum-palladium deposit at the Boss Mine differs strongly from any heretofore described deposit carrying platinum

metals. Further, its probable genetic connection with siliceous igneous rocks is highly remarkable, inasmuch as the primary platiniferous deposits are as a rule genetically associated with basic igneous rocks. The Boss lode is one of the few primary deposits in which platinum metals occur in more than traces, and with one possible exception (the new Rambler Mine in Wyoming), is the only primary deposit of economic importance in which these metals are the constituents of predominant value.

MEXICAN DELEGATION STUDIES U. S. PETROLEUM CONDITIONS

A delegation from Mexico has been investigating conditions surrounding the production of petroleum in this country.

The commission is headed by M. C. Rollard, minister of fomento in the Carranza cabinet. The principal oil-producing territory of Mexico, which is in the vicinity of Tampico, is dominated by the Carrancistas. The commission is engaged in looking into the details of American law governing the production of petroleum.

As this Government has not recognized the Carranza government, the commission was not received officially at Washington. However, at the Bureau of Mines, they were received as distinguished foreign scientists and given every facility for becoming familiar with information on file on the Bureau, and matters within the knowledge of its experts.

Following several conferences at Washington, the commission started on a tour of the producing and refining centers of this country. This was done at the suggestion of Dr. D. T. Day, so that they might understand the expense necessary to bring crude oil to its final products.

There has been a tendency in Mexico to place a heavy tax on crude oil. It was pointed out that under present conditions, crude oil will not stand any great amount of taxation.

BEGIN THIRD YEAR'S WORK IN WYOMING COAL FIELD

A detailed examination of the coal field in Carbon County, Wyo., is to be continued this summer. Work has been in progress for the last two years. Charles F. Bowen and C. A. Onine have been assigned to this work by the Geological Survey.

Gets $363.70 Reparation

Reparation amounting to $363.70 has been awarded to the Parkinson Coke & Coal Co. in its case against the New York Central & Hudson River R. R. Interest from December 15, 1912, also was ordered. The case covered coke shipments from Geneva, N. Y., to Brooklyn.

USE OF PERMISSIBLE EXPLOSIVES SHOWS INCREASE

The total production of explosives in the United States during the year 1914, exclusive of exports, according to figures compiled by Albert H. Fay, of the United States Bureau of Mines, was 450,251,489 pounds or 225,126 short tons, as compared with 500,015,845 pounds or 250,008 short tons for 1913. The production for 1914 is seggregated as follows: Black powder, 206,099,700 pounds; "high" explosives other than permissible explosives, 218,453,971 pounds; and permissible explosives, 25,697,818 pounds.

The figures represent a decrease of 23,839,831 pounds of black powder; 23,932,573 pounds of high explosives; and 1,987,952 pounds of permissible explosives, as compared with 1913.

Mr. Fay says: "As explosives are essential to mining, and the use of improved types of explosives tends to lessen the dangers attending this industry, the Bureau of Mines undertook the compilation of information showing the total amount of explosives manufactured and used in the United States, its first report dealing with the year 1912. The report for 1914 is therefore the third technical paper issued by the Bureau relating to the production and distribution of explosives.

"In the year 1902 only 11,300 pounds of permissible explosives were used in coal mining, whereas in 1913 the quantity so used was 21,804,285 pounds, as compared with 19,593,892 pounds in 1914. The quantity of permissible explosives used in the United States is larger than in a number of foreign countries. In 1912 it represented about 5 per cent. of the total quantity of explosives produced and in 1914, 5.7 per cent. The total amount of explosives used for the production of coal in 1914 was 220,622,487 pounds, of which about 8.9 per cent. was of the permissible class, as compared with 9.5 per cent. in 1913."

ERECTION OF MONUMENT TO MAJ. POWELL DELAYED

The erection of a monument to Maj. J. W. Powell, former director of the Geological Survey, has been delayed by a lack of funds and difficulties arising in regard to the site.

The $5,000 available for the monument, which is to be erected on the rim of the Grand Canyon, is not sufficient to erect a memorial shaft in keeping with the grandeur of the surroundings, those in charge of the project believe.

Plans are being considered whereby additional money may be secured to make the memorial a more fitting one. The site was selected by Dr. Holmes, of the United States Bureau of Mines sometime ago, but it developes that the spot selected is on a mining claim. An effort is being made to prove that this is not a bona fide mineral location.

REPORT MADE ON EXPLOSIVE GASES IN COAL MINES

Another extensive work, expected to meet a considerable demand among coal mine operators, just has been published by the Bureau of Mines. It has to do with the occurrence of explosive gases in coal mines. It is the work of N. H. Darton, formerly of the Bureau of Mines, but now of the Geological Survey.

The investigations on which the work is based were conducted in Pennsylvania and Illinois, where typical conditions are met. The anthracite basin of northern Pennsylvania was made the scene of a portion of the investigation. The coal beds in this section are considerably bent, whereas the beds in the southern part of the bituminous field of Illinois lie horizontally.

Conditions which control the escape of gases in coal; the character of mine gases; the nature of gases in coal beds; conditions under which gas is given off by coal; crushed coal; the cause of gas outbursts; gas from squeezes; methane and coal; pressure of gas in coal beds, and the effect of rock and water pressure on gas in coal are a few of the important questions which are discussed in this 250-page report.

Another interesting feature is an outline of the conditions as found in representative mines. Experiments were conducted in a large number of the mines in the anthracite district and in the southern Illinois district as well.

SOUTHERN IRON DEPOSITS SUBJECT OF CLOSE STUDY

Iron ore deposits in Tennessee, Alabama and Georgia are being studied by E. F. Burchard, a geologist with the United States Geological Survey. Mr. Burchard left for the South recently and has engaged a prospector to work with him. He will make cuts across ore beds and do other detailed work with the idea of determining the quality and quantity of the iron deposits in several sections of the States mentioned.

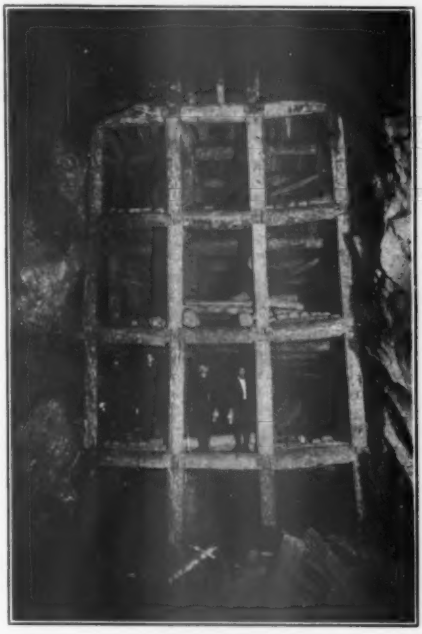
SULPHUR BREAKS RECORD

Increased Value in 1914 Nearly Half-Million Dollars Over That of 1913

The marketed production of sulphur in the United States in 1914, according to the United States Geological Survey, was 327,634 long tons, valued at $5,954,236, the greatest in the history of the industry. This production was 16,044 long tons greater than that of 1913 and showed an increase in value of $474,387. The sulphur mined in 1914 but stocked at the mines is not included in these figures. In 1914 four States produced sulphur, namely, Louisiana, Texas, Nevada and Wyoming.

The total imports for 1914, entered for consumption, were 26,135 long tons, valued at $477,937, of which 23,610 tons, valued at $398,984, were crude sulphur. Corresponding figures for 1913 were 22,605 long tons, valued at $448,564, of which 15,122 tons, valued at $286,209, were crude sulphur. In 1914 the great bulk of the imports were, as usual, from Japan.

In 1914 the exports were 98,153 long tons, valued at $1,807,334, and they would probably have been considerably greater but for the disturbed conditions in Europe. Even with such adverse conditions, the excess of exports over imports amounted to 72,018 long tons, the balance of trade in favor of the United States being $1,329,397.



TIMBERING IN STOPE OF HOMESTAKE MINE, S. D.

AREA OF DOUBLE HOMESTEADS IS INCREASED DECIDEDLY

The total area that has been designated for entry as homesteads of double the usual size, that is 320 acres, now amounts to over 236,880,000 acres. These designations were made as a result of classification of non-irrigable lands. In order to double the size of the homesteads the law provides that the lands must be non-irrigable.

The amount of land available for double homesteads was increased by 2,380,000 acres during May, resulting from classifications just passed upon.

FOREST SERVICE BELIEVES ITS REGULATIONS NO BAR TO LEGITIMATE MINING

Takes Pride in Fact That No Appeal Has Been Made By Committee on Forest Relations of American Mining Congress—Miners Anxious to Eliminate Unscrupulous

Officials of the Forest Service are taking all steps within their power to encourage the development of mineral deposits within the national forests. Every effort will be made to encourage prospecting and extensive development. Timber will be furnished for legitimate purposes.

Forest Service officials feel that a misunderstanding of their attitude has been caused by the action which it has been necessary for them to take in several mining cases. They have found it necessary to proceed vigorously against the holders of certain mining property located in the national forest, but this has been due, they say, to attempts made to take advantage of mining privileges in order to extort money from others, or to be in a position to offer opportunities for illegitimate advantages.

AN EXAMPLE

In one case to which considerable publicity has been given, mining properties were located in the mouth of a gorge which furnished the only outlet to an extensive tract of timber. This timber has been damaged by fire, and in order to realize on it prompt removal was necessary. After some difficulty, the Forest Service found a buyer for the fire-killed timber. The lumber company started logging operations immediately, only to find that permission to haul the logs out of the valley was denied by the owners of the mining properties. A considerable sum was demanded from the lumber company for the right of passage over the claims located in the gorge.

Faced by difficulties of this kind, the lumber company suspended its operations, and demanded that the Government rescind the contract.

EXAMINE CLAIMS

This led to an appeal to the Department of Justice and a dispatch of agents to the site of the difficulty. They claimed that mineral is not present in amounts to justify operation in the remote location of the mining properties.

So far as is shown by the record of this case, the owners of the mining property have ceased to put obstacles in the way of the lumber company, and the road across the mining claims is being used at present, in the removal of this timber. Should any further objection be raised, however, the Department of Justice has been instructed to proceed with all vigor against the owners of the mining property.

Several cases have come up recently which have led mining men, in some cases, to believe that the Forest Service is being unduly drastic in its administration of mineral lands located in the national forests. The Forest Service points out, however, that an arrangement was made with the American Mining Congress for cooperation with its Committee on Forestry Relations. To date, no appeal has been made to the Forest Service by this committee.

SUB-COMMITTEES NAMED

Forestry committees, to act with the main Mining Congress committee, were appointed in each State having forest reserves. These committees were instructed to investigate all cases where undue hardship was being imposed by regulations enforced by the Federal Forest Service. Officials of the Forest Service stated recently that they are gratified highly that not a single appeal has been made by the Forestry committee. They take this to mean that no injustice is being done to legitimate mining. They point out that the mining industry is equally anxious to be rid of unprincipled men who will take advantage of privileges extended, with the idea of developing natural resources, to handicap other men's activities, and attempt to extort money from the unfair advantage held.

PROSPECTING IN UNFAVORALBE LOCALITIES IS PREVENTED

Extensive work is to be taken up again in the near future in the San Juan Mountains, of Colorado. Whitman Cross and a party will leave Washington soon to continue the geological work in that region.

Mr. Cross has been conducting this work for several years, and a number of geological folios have resulted from the work. Several of these have been published.

The district in which the work is being done contains a number of mining camps producing mainly, gold, silver, lead, zinc and copper.

The work of Mr. Cross in this district has been of the greatest service to the mining men of that section, it is declared. The investigations of the geologists have prevented a large amount of prospecting in unfavorable localities.

GOVERNMENT EXPERTS SEARCH FOR SOURCES OF AMMONIA

Look to Country's Great Peat Beds for Supplies of Nitrogen

Dr. Chas. A. Davis, of Bureau of Mines, Pursuing Promising Line of Research

Spurred by the country's increasing need of ammonia compounds, the Bureau of Mines is conducting experiments looking to the use of peat and coal as sources of supply. Since the opening of the European war, the imports of ammonium sulphate have been negligible. During the same time the local demand has been increasing.

Ammonium sulphate is used in most fertilizers. Its value as a fertilizing agent is regarded as second to none, and there is an increasing demand for it for this purpose.

In practically all peat there is a certain amount of combined nitrogen. This seldom runs less than 1 per cent. and oftentimes reaches nearly 4 per cent. Nitrogen also is present in coal in percentages which permit, in most cases, of its recovery with probable profit.

GAS CLEAR PROFIT

In Germany and Italy ammonium sulphate has been recovered successfully from producer gas made in the Mond type of gas producer using peat fuel. It has been so successful that large central power plants find that the cost of operation has been paid by the ammonium sulphate recovered, leaving the gas as clear profit. This gas in one plant is used in gas engines for the generation of electrical energy. In others it is used for the generation of steam and for heating large dryers. It is reported from these plants that peat, which contains 1½ per cent. of nitrogen, insures profit in the operation of plants of over 2,000 horsepower.

There are many American peats containing from 2 to over 3 per cent. of combined nitrogen. Analyses show these peats to be well suited for use as fuel in properly constructed gas producers.

Ammonium sulphate also is recovered from illuminating gas works in the purification of coal gas and in by-products in the Recovery type of coke ovens.

INTEREST IN COAL TAR

Owing to the large amount of peat in the United States, considerable interest is being developed in the manufacture of coal tar products.

Fertilizer manufacturers are firm in their belief that ammonium compounds are by far the most adaptable sources from which to secure nitrogen.

A process has been developed which is being used commercially at a number of places for the recovery of ammonium. The most notable is in operation in South Africa, where it is being supplied from a coal deposit which contains a high percentage of nitrogen.

The experiments at the Bureau of Mines are in charge of Dr. Charles A. Davis, who has charge of the division of fuel technology. Dr. Davis also is editor of the journal of the American Peat Society.

As We Appear to Another

From Mining Science

For several months the American Mining Congress has issued from Washington an official periodical called the MINING CONGRESS JOURNAL. It is conducted under the enlightened editorship and management of James F. Callbreath, the secretary of the organization, who has enjoyed much prior experience as a publisher. We think the need for this monthly journal is shown by the dubious experience which the mining industry has had with the legislative and executive powers, both of the mining States and the nation. The design of the JOURNAL is to keep the membership and the mining interests generally more fully posted concerning those public doings which are of vital importance to them. There are scores of Federal and local activities which escape the notice of those necessarily concerned, for the reason that few, if any, journals lay sufficient emphasis upon them. It is notorious that the city newspapers of general circulation are not only useless but harmful to the serious-minded person, because, while neglecting to give important information, they are at the same time making the pretense of thoroughness and thus deceiving their readers. The honest city daily would be one which carried the following legend at the head of its editorial page: "We do not profess to be published with any other idea than that of making money from department store advertising. The type of readers who consult department store advertising, usually women, is of the kind that seeks entertainment rather than instruction from our pages. Accordingly we do not profess to conduct anything but a vaudeville performance. Persons who take life seriously, and really desire to keep posted upon the affairs of the world, should look elsewhere." Moreover, it may be said that no publication whose life is dependent upon advertising revenue can afford to devote itself exclusively to a narrow rut of information. There is a point where news approaches the quality of official reports, designed for special interests. Mining men are like shareholders in a great industry, to whom the detailed affairs of that industry in documentary form are apt to be welcome. We look upon the MINING CONGRESS

JOURNAL as a sort of "court circular" for the special interest of the mining man in legislative circles, although it possesses the editorial qualities that entertain as well as instruct. The membership of the Congress would today have less to fear from Federal encroachments and from hurtful "isms" of all kinds in State and nation, if it had long ago perceived the importance of keeping in intimate touch with the activities of Tom the Tinker. The JOURNAL is published in Washington, where it can keep its eye constantly upon both the well-intentioned official and the salary-eating nuisances who call themselves conservationists. State branches of the organization are also supplying the editor with prompt information concerning executive and legislative matters in the various commonwealths. The new publication might well have been called the "sentinel" of the mining interests.

PRESIDENT NAMES DELEGATES TO ANNUAL CONVENTION OF AMERICAN MINING CONGRESS

In accordance with the official call issued for the eighteenth annual session of the American Mining Congress, to be held at San Francisco, September 20-22, President Wilson has appointed the following delegates-at-large:

Bo Sweeney, Assistant Secretary of the Interior, Seattle, Wash., and Washington, D. C.

Thomas J. Walsh, Helena, Mont., Chairman of the Senate Committee on Mining.

Martin D. Foster, Olney, Ill., Chairman of the Committee on Mines and Mining, United States House of Representatives.

C. H. Lindley, Mills Building, San Francisco, Cal., author of a well-known work on mining law, and a recognized authority on the subject.

John P. White, 1111 State Life Building, Indianapolis, Ind., President of the United Mine Workers, the principal labor organization among the coal miners of the United States.

W. L. Saunders, 11 Broadway, New York City, President, American Institute of Mining Engineers.

W. R. Ingalls, metallurgical engineer, Hill Building, 10th Avenue and 36th Street, New York City. President, Mining and Metallurgical Society of America.

Joseph Hyde Pratt, Chapel Hill, N. C., State Geologist of North Carolina, and author of many papers and reports on economic geology.

George Otis Smith, Director, United States Geological Survey, Washington, D. C.

Van H. Manning, acting director, United States Bureau of Mines, Washington, D. C.

Japan produced 69,150 tons of copper in 1913, a record production for the Island Empire. The consumption of copper in Japan is increasing and her exports of the metal decreasing in proportion.

SENATOR WALSH IMPRESSED WITH BUREAU OF MINES EXHIBIT

Senator Thomas J. Walsh, of Montana, chairman of the Senate Committee on Mines and Mining, is impressed with the Bureau of Mines exhibit at the Panama-Pacific Exhibition. In a recent letter to Van H. Manning, acting director of the Bureau of Mines, he complimented the Bureau's exhibit highly. He says he went through "The Mine" with an old Montana miner, who was enthusiastic about what he saw and declared it to be the most interesting and instructive exhibit at the fair.

Persons returning to Washington from San Francisco declare the exhibits of the Bureau of Mines and of the Geological Survey attract more attention than any other single exhibits on the grounds. As an attractor of crowds, the daily explosion in "The Mine" continues to outdue any other feature of the fair, reports have it.

Some disappointment is expressed that more mining machinery companies did not see fit to install exhibits.

COLORADO COAL FIELD TO BE SURVEYED AT ONCE

Much development is in progress in the coal field of Routt County, northwestern Colorado. The Geological Survey is beginning a survey of this region. The county surveys in Routt County were done very poorly originally. This lead to great difficulties with regard to titles. The Geological Survey insisted that this be straightened out before its work was started. County officials have complied with this requirement, and the Federal work is to begin at once under the direction of E. C. Hancock, who is in charge of the parties now on the ground. The work will begin at Craig and will continue east along the Yampa River nearly to Steamboat Spring.

Development of the Routt County field was delayed many years owing to the lack of railroad facilities. In 1906, however, the Moffit Road was completed, giving the field an outlet. It is now supplying a considerable portion of the Denver trade. One of the objects of the present survey is to make possible the opening of land to entry in this region.

TO WORK IN WYOMING COAL AND OIL FIELDS

Attention is to be given this summer to the Powder River coal fields in Wyoming. C. H. Wegemann is the geologist in charge of the work.

In addition, Mr. Wegemann will make an examination of the Salt Creek oil fields, which are the most productive ones in Wyoming. There are two refineries at Caspar. Ralph W. Howell is another geologist engaged in this work.

SATISFACTORY RESULTS BEING OBTAINED FROM TEXAS SULPHUR DEVELOPMENT

Freeport Sulphur Company is Recovering Mineral From Beds 1,000 Feet Below Surface by Use of Superheated Water—Boiler Plant Develops 12,000 Horsepower—Extensive Area Underlaid

While it has been a very general understanding in mining circles that the development of the sulphur beds near Freeport, Tex., has not been entirely satisfactory, a contrary view is expressed by the Freeport Commerce League. George C. Morris, the president of this organization, in a special article for the MINING CONGRESS JOURNAL, describes the operations of the Freeport Sulphur Co. as follows:

The opening of a sulphur mine at Freeport, Tex., near the mouth of the Brazos River, has given a new impetus to the sulphur industry in the United States and the splendid production that is being secured assures for this country another great source of supply of sulphur.

It has been known for years that there were deposits of sulphur at this point, but it was not until about three years ago that actual work in their successful operation began. The credit for the present progress and success of this mine is due to E. P. Swenson and associates, of New York City. Mr. Swenson was attracted by the showings occurring here and after an exhaustive study of the fields by experts, a company was organized to develop the fields. Real operation began some two years ago and the success of the production up to this time leads to the conclusion that the Freeport Sulphur mines will compare favorably with any in the world.

AT DEPTH OF 1,000 FEET

The beds are about 1,000 feet below the surface of the earth and the sulphur is contained in pockets of varying proportions. Superheated water is forced into these pockets or cavities at a temperature of 336°, under high pressure. This searches through the fissures, melts the sulphur, which flows into the suction pipe and issues into the bins upon the surface. Upon its delivery into the bins, the sulphur has the appearance of muddy water, but as the temperature cools, the colors vary until it solidifies, when it becomes the true sulphur yellow.

The sulphur produced at these mines is remarkably pure. While it is classed as crude, it is sold on a commercial guarantee of 99.5 per cent. pure, and it often grades as high as 99.9 per cent. pure.

INCREASE BOILER CAPACITY

The plant has been increased since the operation began, very materially. It now has a boiler capacity of 12,000 horsepower, and their energy is all devoted to the operation of the plant, which is in operation day and night. It has every modern appliance and is regarded as one of the most complete plants in the country.

In order to utilize the river water, which is only a short distance from the mine, it was necessary to erect a large lime treating plant. For this purpose two large steel tanks are provided, each of sufficient capacity to contain a day's supply of regeants in solution—the amount and character being determined by daily tests of the water. These tanks are used alternately, passing contents into a dilution tank where water is added to make it easily possible to pipe solution to the entry points of the water. All tanks are equipped with agitators, which, together with the pumps for delivery of this solution, are motor driven. In connection with this treatment plant are large warehouses.

TRY EXPERIMENT

An interesting experiment is now being undertaken in the hope of effecting a large economy in heating mine water. The natural heat of the subterranean water in the formation is 105°. As the water is now delivered to the plant for heating, its temperature varies with the season from 40 to 90°. To raise this water to a temperature of 336° obviously consumes more fuel than to raise 105°. The formation water, however, carriers heavy scale forming properties, and especial equipment has been designed to prevent the precipitation of this scale within the heaters or piping.

The area covered by the producing sulphur wells was somewhat increased during the year, but on the present plan of spotting wells at corners of 100 feet square, it has required only a small portion of the large area known to overlay sulphur to supply the requirements. The radius of heat influence undoubtedly varies greatly, due to the irregularity of formation. The melt of one well is often communicated to its neighbor. Several wells are kept ahead of requirements ready for steaming whenever a well is exhausted so as to have short interruption of production. As wells fail, contiguous wells are taken on, in order to get full benefit of communicated heat. At the prsent time two wells are being steamed at once, with the ex-

pectation that three may be steamed at the same time.

HUNT RICH SPOTS

An area of several hundred acres, chiefly under the mound known as Bryan Heights, has been demonstrated as containing sulphur, and a complete plan of carrying on investigations as to the area is under way, so that the richest spots may be located. The present output is satisfactory, but there may be territory of much greater richness than now under development, which will be determined by a systematic exploration.

The plant is admirably located, in that it is within 3 miles of the port of Freeport. This port has been improved to a depth of 18 feet. The Secretary of War has recommended to Congress that it is worthy of improvement to a depth of 25 feet.

Utah Elevations Measured.

A number of altitudes in Utah have been determined by recent investigations by the Geological Survey. Several mountains rise above the 13,000-foot level. The exact elevation above sea level of more than 900 points in Utah are shown in Bulletin 566 just issued by the Geological Survey. The highest point found in the State is King's Peak in Wasatch County, it is 13,498 feet high. Other high points in the State are Emmons Mountain, 13,428 feet; Gilbert Peak, 13,422 feet; Lovenna Mountain, 13,250 feet.

Mine Low-Grade Coal

While Michigan produces a low grade of coal, 128,330 tons were mined during 1914, according to reports issued by the Geological Survey.

Coal has been mined in Michigan since 1835, but during the greater part of this time the output has been very low, due to the competition of higher grade coals from other fields.

To Issue Molybdenum Report

A bulletin on molybdenum is to be issued this fall by the Bureau of Mines. It will deal principally with ores and their concentration. All deposits of this metal in the West were visted in collecting data for this report.

Wilson Honor Guest

A dinner was given H. M. Wilson at Pittsburgh, June 19, by his associates of the Bureau of Mines. Mr. Wilson is leaving the service to take charge of the Coal Mine Insurance Association.

Dr. Bain Is Honored.

Dr. H. Foster Bain, of *Mining Magazine*, of London, has been appointed a consulting mining engineer for the Bureau of Mines. Dr. Bain will represent the Bureau at any international meetings held in Europe.

Frank F. Castello Dies

Cripple Creek is mourning the death of Frank F. Castello, who contributed in no small measure to the success of that great mining camp. His death occurred in Los Angeles. Mr. Castello was widely and favorably known in mining circles throughout the nation.

Georgia Mines Less Coal

Georgia coal consumption continued to dwindle during 1914. It now amounts to 166,498 tons. The Georgia production has declined steadily since an act of the legislature prohibited the use of convicts in the mines. The mines are located in an isolated section of the state, where free labor is hard to obtain.

Enjoy Mechanical Convention

The American Society of Mechanical Engineers met June 22-25 at Buffalo for their annual convention. A number of mining men were in attendance. The report of the program was of special interest.

Predicts Increased Placer Output

A report by the Geological Survey on the Iditarod-Ruby region of Alaska just has been issued. It is by Henry M. Eakin. Mr. Eakin takes an optimistic view of the future of placer mining in this section of Alaska.

Discusses Utah Radium

A report is being prepared by the Geological Survey on the radium, uranium and vanadium deposits in Utah. The Utah field is simply a continuation of the Colorado field across the border.

To Study San Juan Basin

A detailed reconnaissance of part of the Great San Juan River coal basin is to be made this summer by C. M. Bauer and J. B. Reeside, geologists of the Geological Survey. They recently have left Washington for New Mexico to start this work.

Carbide Lamps Discussed

A circular which will go deeply into the matter of the use of carbide lamps by miners is about to be published by the Bureau of Mines. J. W. Paul is its author.

MINING STATISTICS TO COVER MORE GROUND

Success of Work Made Possible by Cooperation of Mine Owners and Operators

Figures Cover 95 Per Cent. of Production of United States—Few Requests Unanswered

Extensive increases in the scope of the statistical division of the Bureau of Mines are being put into effect. This applies to metal mining statistics as well as those appertaining to coal and coke. Important data as to explosives and other accessories to mining are being compiled.

The success of this division is made possible by the cooperation which is extended generously by operators and owners of mining properties. Blanks covering the detailed information required are sent to the operators of every property in the United States. Ninety per cent. of those on the list of the Bureau of Mines reply. The 10 per cent. of the requests to which answers are not received are directed mostly to mines which have suspended operations. The statistics of the Bureau of Mines are based on returns from 95 per cent. of the production.

QUESTIONS SENT OUT

The great bulk of the information is obtained from five lists of questions. They are sent out in duplicate. One list is to be filled in and returned to the Bureau of Mines and the other one is to be retained by the operator for his own file.

The list of questions concerned with accidents in metal mines asks that the number of killed and injured be shown, together with the place of the accident and the manner in which it occurs. Fifteen or more of the common causes of deaths and injury are tabulated, and the mine owner is requested to indicate how the injuries and deaths took place. Whether the accident takes place underground, in the shaft, on the surface or in an open pit is to be indicated on the card.

In addition, the number of men employed, the days worked, the principal ore produced, the number of claims, the length of time mines are idle, length of shift, number of wives left widows, number of children under 16 years of age left fatherless and other data are asked.

ADD TO QUESTIONS

The latest addition to the information requested deals with methods of mining. All methods of mining are listed. The operator is asked to check the methods he is following.

Information as to the number killed in coal mines follows the same general lines, only it is made up by the State mine operators.

Data as to accidents in metallurgical plants, placer mines or at coke ovens are secured direct.

The statistical division is under the direction of Albert H. Fay.

TUNGSTEN PRICES SPUR PROSPECTING IN WEST

Due to the effect of the European war on the market of numerous metals, Government experts have been called upon, with more frequency than ever before, for information in regard to possible markets. There is the greatest activity on the part of those interested in tungsten. In Colorado particularly, things are booming. According to reports received here prospectors throughout the West are combing the country for this mineral. Attention is called by the Geological Survey experts to the fact that considerable speculations is certain to attend activities based on the present price of this metal.

Following the declaration of peace between the nations of Europe, it is conceded that rapid declination from the present price may be expected.

Map Nevada Coal District

A detailed map of the Manhattan coal district of Nevada is to be made by the Geological Survey. Henry G. Ferguson has been assigned to this work. He will prepare a geological report to accompany the map.

MINING CONGRESS ALWAYS READY TO HELP MEMBERS

Any member of the American Mining Congress is entitled to apply to the Washington office for any service which can be rendered. Matters will be laid before any department or will be taken up with the White House. Oftentimes more can be accomplished by personal interviews than by correspondence.

Washington has a wealth of reference facilities. These are at the service of the members of the American Mining Congress if anyone will acquaint the secretary with his desires.

The staff of the Washington office is always at your service.

LABARTHE JOINS BRADLEY AND BRUFF ENGINEERING FIRM

Jules Labarthe, a mining engineer, formerly of Denver, and well known throughout the West, has just joined the firm of Bradley & Bruff, of San Francisco. The firm will be known as Bradley, Bruff and Labarthe. New offices were opened June 1 in the Hobart Building, San Francisco.

The firm will pay special attention to designing and constructional engineering; inspection, appraisals, reports, estimates, designing and construction. The equipment, operation and management relating to mining, milling, smelting, power and metallurgical installations will be undertaken.

MONTANA LIGNITE IS TO BE EXAMINED THIS SUMMER

Lignite deposits in the northeastern corner of Montana are to be given attention by the Government geologists this summer. The work is being done principally for the purpose of classifying the land, so as to make it available for settlement.

This is in response to a considerable demand, as the land lying between the Great Northern R. R. and the Canadian boundary is being settled more rapidly than is any other part of the West. This work has been entrusted to A. J. Collier and W. C. Phom.

Canada Issues Reports

The Canadian Department of Mines continues to issue a number of important reports. A 400-page paper on "Corundum, Its Occurrence, Distribution, Exploitation and Uses," by Alfred Ernest Barlow, has just been issued.

Lawrence M. Lambe is the author of a report on "Eoceratops Canadensis, Gen. Nov., with Remarks on Other Genera or Cretaceous Horned Dinosaurs."

The basins of the Nelson and Churchill Rivers are covered carefully in a report by William McInnes.

The geology of the Franklin Mining Camp of British Columbia is gone into extensively by Charles W. Drysdale. The report contains 246 pages and is accompanied by several maps.

"Coal Fields and Coal Resources of Canada," by D. B. Dowling, goes very extensively into the carboniferous areas of the dominion, and bids fair to be circulated very largely. It contains 200 pages and is accompanied by various maps.

"The Occurrence of Glacial Drift on the Magdalen Islands," by James Walter Goldthwait and the "Physiography of the Beaverdell Map-Area and the Southern Part of the Interior Plateaus of British Columbia," by Leopold Reinecke, are very interesting reports.

LONG RIVALRY BETWEEN MINERAL ANNUALS ENDED

"Mineral Resources" and "Mineral Industry" Will Cooperate in Future

George Otis Smith Writes Introductory Chapter for New York Publication

Since 1893 there has been some duplication of effort on the part of the editors of an annual work entitled, *Mineral Industry*, and the compilers of *Mineral Resources* of the United States Geological Survey.

An arrangement has just been perfected whereby this duplication will be stopped, and extensive cooperation made possible.

In former years there was intense rivalry between the Government publication and *Mineral Industry*. At one time their results lacked a great deal of coinciding. In recent years, however, there has been little variation.

At present *Mineral Industry* is edited by G. H. Roush, and is published by McGraw-Hill Book Company, of New York.

NEEDLESS WORK

For some time it has been felt that there should not be two sets of statistics on the mineral resources of the United States. This was shared by the director of the Geological Survey, who has arranged with Professor Roush to give him Government figures on American production in exchange for *Mineral Industry's* collection of data with regard to foreign mineral production.

Mineral Industry has gone into the matter of foreign production in far greater detail than the Geological Survey, while the Survey naturally tries to be the authority upon the United States output.

With the active cooperation of 90,000 producers of minerals, the Survey has been able to furnish accurate returns which hardly can be duplicated by private interests.

Mineral Industry tries to take a world view of mineral production and may be said to specialize on that phase of the subject to an extent not justified in the *Mineral Resources* of the United States.

DR. SMITH CONTRIBUTES

The introductory chapter for the 1914 volume of *Mineral Industry*, which is in press, has been furnished by George Otis Smith. Director Smith emphasizes in this paper the need of large operators having full knowledge of the resources of the United States, in this or that mineral production, and also a full comprehension of the world's resources, inasmuch as whatever foreign or home markets the American producers win, in the present emergency, only can be held as the American miner or manufacturer is able to put out a better and cheaper product.

Extracts from the chapter written by Dr. Smith are as follows:

UNPRECEDENTED SITUATION

"Never before has the census of the world's mineral industry possessed greater interest and value. Disturbance of international trade has brought in its train changes in market relations, with the result that industrial conditions in every country have been affected. Many a manufacturer who thought little of the source of his raw material and many a mine operator who regarded his market as assured has been awakened rudely to the fact that the countries of this small world are interdependent. The enforced shutdown of Belgian smelters may have opened new markets to American spelter, but the blockade of German ports closed a large market for American copper; the embargo on British coal creates new demands for the product of American mines, but the closing of North Sea ports to commerce shuts off from American farms the needed supplies of German potash. So, in manifold ways, the currents of international commerce have been changed. It is too early to forecast the exact lines which world trade will follow finally, but we may try to ascertain the fundamental facts that will condition if not control that readjustment, insofar as the mineral industry is concerned.

LINES OF INQUIRY

"Two separate lines of inquiry must necessarily be followed by anyone who is interested in industrial America. He must have at hand an inventory of our own mineral reserves so as to determine their availability both as to location and character, and he must know the extent of foreign production and its controlling conditions and future possibilities. The present status and future prospects of American mining properly form a subject of Governtal investigation, and are presented in the annual report, 'Mineral Resources of the United States,' and the world view of the same subject is presented in this volume, *Mineral Industry*. These two publications have been issued annually since 1882 and 1892, respectively, but at no time has it been more important to study the subject from both points of view.

CAN BE SUPREME

"Raw material is at hand to enable this country to win and maintain supremacy as a manufacturing nation.

"Ignorance of possibilities of production in other lands means a voluntary business hazard for which there is little excuse. The opportunity for expansion of business demands a world view of the situation."

PRIZES AWARDED GOVERNMENT EXHIBITS AT SAN FANCISCO

A preliminary list of awards by the Panama-Pacific International Exposition gives the Department of the Interior collective exhibit one grand prize. The Geological Survey receives one grand prize, four medals of honor, five gold medals, six silver medals, and two bronze medals. The Bureau of Mines receives one grand prize, six medals of honor, three gold medals and three silver medals.

SURVEY HAS WORLD'S LARGEST MINING LIBRARY

Over 200,000 Works Preserved on its Shelves —Every Mining Publication is Kept on File

It is not generally known to mining men in the United States that the library maintained by the Geological Survey here is the most complete collection of geological and mining literature in the world It was used last year by 24,000 persons. The library contains 100,000 regular volumes and 100,000 pamphlets. All have been selected carefully. No literature which does not have a direct bearing or mining or geology is placed on the shelves.

Among the treasures preserved in the library is an original copy of an old mining book of Agricola, which was published in Germany in 1565. This book discloses a remarkable knowledge of mining and mining processes even at that time. It is illustrated with wood cuts which do much to set forth the process described.

This work was translated by Herbert Clark Hoover and his wife. The English edition was published in the same form as was the original work. It is bound in sheep-skin and contains the same wood cuts.

By far the greatest collection of works on paleobotany in the world is in the Geological Survey library. The study of fossil plants has lead to many interesting discoveries by U. S. geologists. By law, all fossils collected by the Survey must be deposited in the National Musuem. Such paleobotanists as the late L. F. Ward, F. H. Knowlton and David White, are, or have been, connected with the Survey.

Every mining publication in the world is on file in the library.

Much credit for the high rating of the library is due to the years of painstaking attention bestowed upon it by Miss ——— McCord, the librarian.

Rich Ore Shoot.

The Geological Survey characterizes the National Nevada ore shoot as "one of the most remarkable and interesting bodies of high-grade ore discovered in the West." This deposit of high-grade gold ore is situated on the western slope of the Santa Rosa Mountains in Humboldt County, near the Oregon line. The ore shoot produced $4,000,000 in four years.

Investigates Houtzdale Fault

George H. Ashley, administrative geologist of the Geological Survey, has been doing work in the Houtzdale quadrangle in Pennsylvania. He secured further detailed information as to the continuity and identity of some of the coal beds in areas where the strata are dislocated by faults to a greater extent than has been suspected previously.

SOUTH DAKOTA INCREASES MINERAL OUTPUT IN 1914

Figures as to South Dakota's metal production just have been made public by the Geological Survey. The production in 1914 shows an increase over that of 1913. The total mineral production of the State was $189,501,314. This came from thirty productive mines, ten of which were placers. The values are principally from gold, silver and lead.

MINERAL, POWER AND WATER RESERVES TOTAL 58,000,000 ACRES

At the end of May the total gross area of all forms of mineral, power or water reserves totaled 58,000,000 acres. Of this amount 56,000,000 acres are open to agricultural entry, with the reservation that the mineral content of this land is the property of the Government.

Boone County Report Published

Boone County, W. Va., has been studied carefully by the State Geological Survey as is evidenced by the 700 page volume which just has been issued.

The work covers historical and industrial development; physiography; structure; strategraphy; petroleum, and natural gas; coal resources, clays, road material; building stone; sand, iron ore; forests and carbon black; paleontology and levels above mean tide. Three well executed maps are contained in a separate cover, while the book itself contains forty-two plates and three maps. It is the work of C. E. Krebs, assistant geologist; D. D. Leets, Jr., field assistant; W. Armstrong Price, paleontologist. I. C. White is the State geologist. He directed the collection of the data.

Find New Barytes Veins

Discovery of barytes veins near El Portal, Mariposa County, Cal., are regarded as of great importance here. Especially as they turn into witherite at relatively shallow depths. This is the only deposit of commercial size of this material in the United States. It is doing much to supply the domestic demand for this basis of white paint now that the supply from Germany is cut off. Important development is in progress in the bartyes mines of Missouri, Alabama, Georgia, Kentucky, North Carolina, South Carolina, Virginia and West Virginia.

Nears $4,000,000 Mark

The report covering the coal mining industry in Texas has just been published by the Geological Survey. It shows that the State in 1914 produced 2,323,773 tons of coal valued at the mines at $3,922,459. The coal production of Texas is divided almost equally between lignite and bituminous coal.

CONSTRUCTION WORK STARTS ON GOVERNMENT'S ALASKAN RAILROAD

Operations Begun at Several Points Along Tidewater—Two Thousand Men Will Be Employed on Work—Good Weather Permits Rapid Progress

Operations have been begun upon the construction of the Government railroad in Alaska.

The preliminary base of operations is at Ship Creek, on Cook's Inlet. Thence, from tidewater, coal from the Matanuska field, in the interior, is expected to be shipped southward during the greater part of every year. The line, when completed in its entirety, will extend from Seward to Fairbanks, a distance of 471 miles, including the 71 miles of the Alaska Northern Railway, which extends from Seward, through the Kenai Peninsula, to Turnagain Arm.

A preliminary report on the work at Ship Creek was received by Secretary Lane from Lieut. Mears, one of the members of the Alaskan Engineering Commission. Lieut. Mears arrived at Ship Creek on April 26, with a force of engineers and the necessary assistants, and began immediately the landing of materials and supplies for the work of construction. Lieut Mears' report reads:

LIEUT. MEARS' REPORT

"I brought up with me a complete pile-driver outfit and an experienced crew and started them to work as soon as the equipment could be landed and set in place. We now have the dock practically completed on the right bank of Ship Creek, near the mouth. This dock is equipped with a 15-ton stiff-leg derrick operated by hoisting engine, which takes the loads out of the scows in nets or large packages and places them on the dock or flat car. I constructed what is called a 'gridiron' with pile foundation, to furnish level bases for the scows to rest upon when lying at the dock at low tide, and by this method we are enabled to unload our lighters at all stages of the tide.

"Realizing the situation at Ship Creek I made definite arrangements before I left Seattle to provide the necessary lighters and scows to handle freight from ship to shore. I knew there would be heavy demurrage, $150 to $200 a day, on any freighters which were held at Ship Creek longer than the accustomed time, and I also knew that a private company had provided a big barge, a floating dock, and would charge the Commission $2 a ton for every ton of freight which passed over their barge. I, therefore, purchased a 1,000-ton barge from a towboat company in Seattle and had it delivered at Ship Creek at their risk, the price to be paid upon receipt. I loaded on this big scow three smaller scows secured from the Puget Sound Navy Yard and also shipped up, knocked down, one 200-ton scow, built by the Seattle Dry Dock Construction Co. This gave me a floating dock, which enabled a ship to discharge its cargo, and also a fleet of lighters with which to transfer the cargo from the ship to the shore. We have had no demurrage to pay. On May 26 the steamship 'San Ramon' came into the harbor with 912,000 feet broad measure of lumber, and we discharged this cargo in three days, by working night and day.

WEATHER FAVORABLE

"We have been blessed with the most beautiful weather since my arrival here that I have ever seen. It has been bright and pleasant nearly every day, and this has been a big factor in keeping up the spirits of our working force and the stationmen waiting to secure employment.

"We have now contracted with about 400 stationmen and are employing about 100 men on force account handling the terminal work and constructing wagon roads. I expect to rapidly increase this force to 1,500 or 2,000 men as fast as material and supplies can be shipped in here to accommodate that number. By utilizing water transportation along the east side of Knik Arm we are able to attack the line at various points. We already have an active construction camp at Eagle River, a point 12 miles up the coast, and another has been started at Peters Creek, a point about 10 miles further north. We expect to continue this system of establishing camps along the tidewater, close to the line, as fast as the final location is completed and the necessary construction arrangements made.

PREPARE HOSPITAL

"I noted the wishes of the President, as expressed in the executive order, regarding the care of the sick and the injured employes, and realizing the importance of providing necessary facilities to care for our injured men as soon as possible, I purchased a partially constructed log building since I arrived here and started carpenters to work putting it in shape so that it could be utilized as a field hospital. The necessary equipment was also ordered at the same time and within two weeks I expect to have a suitable place to care for the injured men. There are now two or three injured men in camp who have suffered minor injuries from axe cuts, etc., and, doubtless, as more men are employed there will be more of these cases to care for. I have not gone into any elaborate expenditure for this hospi-

tal. It is a plain log building 26x50, which I purchased for $350. I think it will answer all of our requirements for some time to come. This is a pretty healthy country and we have had practically no sickness, but there are bound to be some few cases of injury from time to time on work of this character.

"All of our work is being done by stationmen on a unit basis. Numerous gangs of stationmen have moved into Ship Creek seeking work on the railroad. We have had no difficulty whatsoever in securing all of the stationmen that are required. In fact, they have been coming much faster than we could place them."

INCREASED OUTPUT OF GOLD EXPECTED IN PHILIPPINES

There is every reason to think that the output of gold in the Philippine Islands will be greater in 1915 than at any other time in the history of the industry in the islands. This is the opinion of Alvin S. Cox, the chief of the Bureau of Science, of the Islands, who spent a few days in Washington recently.

With the exception of one year, the output of gold from the Philippines has increased each year since American occupation. The growth of the industry has been slow, but it has been substantial. Mr. Cox states that an excellent field for investment is offered, provided the selection of mining properties are made by capable persons.

Numerous promising prospects have been taken up and worked to some extent on deposits of copper, manganese, sulphur and asbestos, Mr. Cox states.

UNITED STATES PRODUCING MOST OF ITS OWN ASBESTOS

J. S. Diller, of the Geological Survey, has prepared a report, of more than ordinary interest, on asbestos. He points out the great possibilities that offer for the increasing use of this fabric-like mineral. For many years the raw asbestos used in the United States was obtained largely from Canada, but the United States is now producing a considerable portion of its own raw material. With the bringing in of an important field in Arizona last year, the United States is now able to furnish as high grade product as is secured in the Canadian mines.

CHINESE MINING MEN STUDYING METHODS HERE

H. Y. Liang, president of the Shue Kow Shan Government Lead Mines of Changsha, China, was a recent visitor at the Bureau of Mines. He spent considerable time in studying the method of operating the bureau, and made arrangements to keep in close touch with the work done in this country.

REPORT, JUST OUT, DISCUSSES MANY RADIUM PROBLEMS

While the abnormal condition prevailing in Europe has interfered greatly with the market for radium, great interest is continuing in the experimental work being done in the Government laboratories, and in the exploration being conducted in the field. The Bureau of Mines just has published Technical Paper No. 88, treating on the "Radium-Uranium Ratio in Carnotites." This report, which is by S. C. Lind and C. F. Whettmore, contains a great deal of valuable information. The report was written from data secured entirely before the outbreak of hostilities, and some of its conclusions do not apply to conditions as found at present.

The European buyers who secured the greater percentage of the radium produced in this country before the war, made allowances for its supposed deficiency. It has been customary to buy and sell these ores on the basis of their percentage of uraniumoxide. It is believed in some quarters that a considerable advantage has been given European buyers. The importance of determining the justification for these practices is pointed out, and the paper is written with the idea of determining within what limits the radium content is fixed by the uranium content.

271,000 ACRES OF COAL LANDS ORDERED RESTORED

During May 271,000 acres of the lands withdrawn by the Government have been ordered restored by the Board of Land Classification. These lands were withdrawn for examination as to their coal character. The greater part of the lands released are in Washington, although some are in Colorado and North Dakota.

The Geological Survey has classified and examined 135,000 acres in west central Wyoming which are held to be favorable for oil. It is recommended that these lands be withdrawn and placed in the petroleum reserves. While the geologists were making this report they examined some other lands which had been withdrawn previously and 5,000 acres were restored.

Make More Hydrochloric Acid

The demand for lump fluor spar, for the manufacture of hydrochloric acid, is improving. In 1914 the quantity manufactured in the United States increased 55 per cent. There was an increase of 91 per cent. in value. The more important use of fluor spar, however, is in the steel industry. Comparatively little gravel spar was used in 1914, which pulled down the average production. Some interesting figures with regard to this material have just been published in a report by Ernest F. Burchard, of the Geological Survey.

PROMINENT MINING MEN TO DIRECT FIELD MEET

Events Will Be One of Features of Week of American Mining Congress Convention

Representative mining men from all parts of the country have been selected to serve on the various committees to have charge of the joint field meet which will be given by the United States Bureau of Mines and the American Mine Safety Association at the Panama-Pacific Exposition September 23-24.

The field meet will be one of the features of the week during which the American Mining Congress, the American Institution of Mining Engineers, and the International Engineering Congress will hold their conventions. The committees have been selected as follows:

Executive Committee — Albert Burch, chairman, president California Metal Producers' Association, Crocker Building, San Francisco; E. H. Benjamin, 805 Linden Street, Oakland, Cal.; D. C. Botting, 329 Lyon Building, Seattle, Wash.; John R. Brownell, California Industrial Accidents Commission, 525 Market Street, San Francisco; Capt. Edwin Carpenter, United States officer in charge of guards, Panama-Pacific International Exposition, San Francisco; N. S. Kelsey, general manager Argonaut Mining Co., Jackson, Cal.; G. W. Metcalfe, 1109 Merchants National Bank Building, San Francisco; Gerald Sherman, superintendent Mining Department, Copper Queen Consolidated Mining Co., Bisbee, Ariz., and H. M. Wolflin, 407 Underwood Building, San Francisco.

Reception Committee—Fred W. Bradley, chairman, president Bunker Hill & Sullivan Mining Co., Crocker Building, San Francisco; G. W. Merrill, vice-chairman, 121 Second Street, San Francisco; J. C. Boykin, Government Exhibit Board, Exposition Grounds, San Francisco; F. G. Cottrell, Bureau of Mines, Custom House, San Francisco; Prof. E. B. Durham, University of California, Berkeley, Cal.; Prof. D. F. Folsom, Leland Stanford University, Palo Alto, Cal.; A. D. Foote, North Star Mines, Grass Valley, Cal; Will J. French, California Industrial Accidents Commission, Underwood Building, San Francisco; F. McN. Hamilton, State Mineralogist, San Francisco; E. C. Hutchinson, president Kennedy Mining & Milling Co., 409 Montgomery Street, San Francisco; D. C. Jackling, managing director Utah Copper Co., Salt Lake City, Utah; G. S. Rice, Bureau of Mines, Pittsburgh, Pa.; T. A. Rickard, Mining & Scientific Press, 420 Market Street, San Francisco, and C. E. Van Barneveld, director Department of Mines and Metallurgy, Panama-Pacific International Exposition, San Francisco.

Committee on Awards—President C. C. Moore, Panama-Pacific International Exposition, chairman; Gov. Hiram W. Johnson, of California; Senator John D. Works, California; Senator George C. Perkins, California; Mayor James Rolph, Jr., of San Francisco, and Col. Harris Weinstock, California Industrial Accidents Commission.

Committee on Events and Rules—J. W. Paul, chairman, Bureau of Mines, Pittsburgh, Pa.; A. F. Knoefel, M. D., Terre Haute Trust Building, Terre Haute, Ind.; R. U. Patterson, M. D., Union Trust Building, Washington, D. C., and H M. Wilson, Bureau of Mines, Pittsburgh, Pa.

Committee on Judging Rescue—R. Y. Williams, chairman, University of Illinois, Urbana, Ill.; Thomas Graham, chief inspector of mines, Victoria, B. C., Canada, and D. C. Botting, 329 Lyon Building, Seattle, Wash.

Committee on Judging First-Aid—Maj. R. U. Patterson, chairman, American Red Cross, Union Trust Building, Washington, D. C.; Army and Navy Surgeons; C. C. Pierce, surgeon, Public Health Service, Exposition Grounds, San Francisco, and R. M. Woodward, surgeon, Public Health Service, Exposition Grounds, San Francisco.

Committee on Grounds—Edward Steidle, chairman, The Mine, Mines and Metallurgy Building, Panama-Pacific International Exposition, San Francisco; G. H. Deike, 541 Fourth Avenue, Pittsburgh, Pa.; W. M. Johnson, safety engineer, Panama-Pacific International Exposition, San Francisco, Cal.; T. S. O'Brien, superintendent Original Amador Consolidated Mines Co., Amador, Cal., and W D. Ryan, Keith & Perry Building, Kansas City, Mo.

Committee on Ushering—Capt. Edwin Carpenter, chairman, United States officer in charge of guards, Panama-Pacific International Exposition, San Francisco, Cal.

Committee on Recording—John Mocine, chairman, secretary California Metal Producers' Association, 1109 Merchants National Bank Building, San Francisco, Cal.; Lewis H. Eddy, associate editor Engineering & Mining Journal, Terminal Hotel, San Francisco, Cal., and Thomas T. Read, Mining Press, 420 Market Street, San Francisco, Cal.

DR. PARKER REMEMBERED BY FRIENDS AT SURVEY

Dr. Edward W. Parker, who has been in charge of the statistical division of the Geological Survey for many years, and who takes up similar work for the anthracite coal companies July 1, was the recipent last month of various testimonials of the esteem in which he is held by his associates in the Geological Survey.

He was presented with a shield bearing the emblem of the Geological Survey, the background of which is mahogany, while the pick, hammer and triangle are of silver.

Dr. Parker also was the guest of a number of his Survey friends at several dinner parties.

RECENT LEGAL DECISIONS—LIABILITY OF CARRIERS DURING CAR SHORTAGE EXPLAINED

In Case of Pennsylvania Railroad Versus Puritan Coal Mining Company It Is Held That Operator May Take Damage Suit Direct to the Courts

Section 3 of the Interstate Commerce Act makes it unlawful for any common carrier to give any undue or unreasonable preference or advantage, or to prefer unduly one shipper to another.

Under this section there are two forms of discrimination. One is promulgating a discrimatory rule and the other is the unfair enforcement of a reasonable rule.

Where the rule of practice is attacked as unfair or discriminatory it calls for the exercise of the judgment and discretion of the administrative power which Congress has vested in the Interstate Commerce Commission; and it is for that body to say whether the rule unjustly discriminates against one class of shippers and in favor of another, and until such declaration has been made and the practice declared to be discriminatory, no court has jurisdiction of a suit against an interstate carrier or damages occasioned by its enforcement. But where a carrier's rule, fair on its face, has been unequally applied and the suit is for damages occasioned by its violation or discriminatory enforcement, then the courts may decide the mere question of fact as to whether the carrier has violated the rule and the shipper has been damaged.

Ordinarily, a coal operator, on reasonable demand, would be entitled to all the cars which he could load promptly to be transported over a carrier's line; but this is not an absolute right, and a carrier is not liable, if its failure to furnish cars was the result of sudden and great demands which it had no reason to apprehend would be made, and which it could not reasonably be expected to meet in full.

In such case in the distribution of cars to coal companies it might be necessary to determine whether account should be taken of system cars, foreign cars, private cars and the company's own coal cars.

Where a coal operator alleges he was damaged by reason of the carrier's failure to furnish him with cars to which he was entitled, and makes no claim of damages on the ground that the carrier's rule to distribute cars in case of car shortage, on the basis of mine capacity, was unfair, unreasonable, discriminatory, or preferential, and it appears that the coal operator complaining has not received the number of cars to which he was entitled according to the carrier's own rule, there is then no administrative question as to the reasonableness of the rule and no exercise of authority or jurisdiction on the part of the Interstate Commerce Commission is called for, and the State and Federal courts have concurrent jurisdiction of such claim or suit against an interstate carrier without a preliminary finding by the Commission.

Pennsylvania Railroad Company v. Puritan Coal Mining Company. 237 U. S. 121.

ACTION BY STOCKHOLDERS

Under the Kentucky statute permitting one or more persons to sue or defend for the benefit of all, if the parties are numerous and it is impracticable to bring them all before the court, one or more stockholders of a mining corporation may, where the stockholders are numerous, and it is impracticable to bring them all before the court, maintain an action to recover in ejectment, mineral and other rights in real estate owned by the corporation, before the expiration of its charter.

Stearns Coal & Lumber Co. v. Van Winkle, 221 Federal 590.

DISSOLUTION OF CORPORATION

The statute of Kentucky provides that when a corporation expires by the terms of its articles of incorporation, it shall be the duty of the officials to settle up its affairs and business within two years, this being regarded as a reasonable time for the winding up of the corporation's affairs; and after that period of time no action can be maintained in the name of the corporation, and the title to land owned by the corporation is then in the stockholders as tenants in common, and they may sue for the recovery thereof from an adverse claimant without appointment of a receiver or trustee.

Stearns Coal & Lumber Company v. Van Winkle 221 Federal 590.

MINE LOCATION

The action of a locater in locating a mining claim, in so far as it overlaps or conflicts with an existing claim, is ineffectual for the purpose of vesting any right in the locator unless there has been an abandonment of such existing claim or a forfeiture of the claimant's right by reason of the failure to do the annual assessment work for the preceding year; and in such case the burden of establishing such forfeiture is upon the junior locator.

Musser v. Fitting (California) 148 Pacific 536.

PROOF OF ASSESSMENT WORK

The statute of California (civil code section 1,426 m) makes an affidavit, confirming to

its provisions, prima facie evidence of the performance of the annual assessment work upon a mining claim; and where in a controversy of conflicting claims the introduction in evidence of the proper affidavit is sufficient in the absence of countervailing evidence, to establish the fact of the performance of the assessment work and to entitle the locator making such proof to a decree awarding him the title to the claim.

Musser v. Fitting (California) 148 Pacific 536.

MINING CLAIM ASSESSMENT

A stockholder in a mining corporation or a member of a mining association has such an equitable and beneficial interest in mining claims owned by such corporation or association by reason of which assessment work done by him inures to the benefit of the corporation or association prevent a forfeiture.

Musser v. Fitting (California) 148 Pacific 536.

WORKMEN'S COMPENSATION ACT

The Workmen's Compensation Act of Kansas (Laws of 1911) is not unconstitutional because it gives the defenses of contributory negligence the assumption of risk to an employer who elects to come within its provisions and denies them to any employer who does not elect to come within its provisions.

Horis v. Cudahy Refining Co. (Kansas). 148 Pacific, 626.

EQUIPMENT OF CARS

The statute of Texas provides that in a suit against a person operating a railroad for an injury to an employe caused by negligence of the operator, the defense of assumed risk through knowledge of the employe of the defect is not available to the operator. This rule applies to a smelter and refining company operating a private railroad within its own yard only where it fails to equip its cars with automatic couplers and by reason of which an employe was injured; and the fact that its cars and locomotives were smaller and its tracks narrower than the standard gauge railway does not except it from the statute nor exempt it from liability for failure to so equip its cars with automatic couplers.

Consolidated Kansas City Smelter & Refining Co. v. Schulte (Texas Civil App.), 176 Southwestern, 94.

MINING PARTNERSHIP

A mining partnership exists when two or more persons own or acquire a mining claim for the purpose of working it and extracting mineral therefrom, and actually engage in working the same; but the actual working of a mine by the joint owners is essential to a mining partnership, and the partnership arises only when the co-owners unite and cooperate. The actual working of a mine by the owners together for their mutual benefit is regarded as essential to the existence of the parnership relations, the parties contributing to the expense of the work and to share in the profits according to their respective interests.

But a mining partnership does not exist where it is agreed that one co-owner, who holds the legal title to the mining property in trust for both, should operate the property and after repaying himself certain advances, the sums remaining should be divided equally between the parties, and any sum remaining after such repayment was to be held by the person operating the mine as trustee, one-half to belong to each of the parties.

Peterson v. Beggs (Cal. App.) 148 Pacific, 541.

INJURY TO CHILD

Ordinarily only persons who come upon the premises of another on business, in some sense of the term, can hold such persons to the duty of care and caution for their safety; and under this rule a coal mining corporation, operating and handling its coal cars and motors on its private railway, between the mouth of the mine and its yards or tipple, is not ordinarily under a duty to keep a look out for children of its employes coming upon or passing over its tracks, though they reside with their parents in houses owned by the mining corporation located on its premises and near such tracks.

Dickinson v. New River & Pocahontas Coal Co. (West Virginia). 85 Southeastern, 71.

PLACER MINES IN SOUTH VISITED BY GEOLOGIST HILL

By way of completing the year's work in the study of the placers of the United States, J. M. Hill, a geologist of the Geological Survey, has left for North Carolina, South Carolina and Georgia to examine the placer deposits in those States. This work is being done in conjunction with the Bureau of Mines. Chas. Janin, of the latter bureau, accompanies Mr. Hill.

COMPLETES INVESTIGATION OF SUSPECTED CLAIMS

Investigation of the platinum claims made in the Grand Canyon, which aroused the suspicion of the Forest Service, has been completed. Henry G. Ferguson, of the Geological Survey, who was sent to the Grand Canyon at the request of the Forest Service, has returned to Washington and is engaged in making his report. The matter will be taken up at a hearing to be given in Phoenix during the summer. Mr. Ferguson expects to appear as a witness at this hearing.

The Forest Service suspects that no platinum exists on these claims.

Bids to be Opened

Bids for the constructional work on the new building for the Department of the Interior, will be open July 13.

HOLDING UP PROGRESS DECLARED POOR BUSINESS

Editor of "Power" Comments on George Otis Smith's Recent Address at University of Illinois

Editorial attention in *Power* has been given a section of a recent address by the director of the Geological Survey. It reads as follows:

Always present in every community are the "kill-joys," who see nothing but ruin ahead if this or that is done. Yet somehow, we always have lived through the administrations that were prophesied to bring the country to disaster and, strangely enough, we are getting better all the time. It seems as though progress has a certain momentum that will carry it on in spite of all obstacles, including the well-meaning people who cannot anticipate success except by time-worn methods.

In this connection a recent utterance of George Otis Smith, director of the United States Geological Survey, in an address at the University of Illinois, is to the point:

"The trouble with too many of the business men of the day, and especially with those who come to Washington to oppose new legislation, is their near-sightedness. They cannot see country-wide public opinion and do not appreciate the obvious fact that the financial centers are not also the centers of national thought. The result of this, as I expressed it in conversation last winter with a New York gentleman who was largely interested in water-power development, is that the business interests oppose something at one Congress which two years later they would accept; but the next Congress is already considering a more advanced legislative proposition. We are all more or less progressive, I told him, but the opposition has been just one lap behind.

"The bright light of publicity is coming to shine more and more upon the inner workings of all private business which has anything of the public-service character. Only about three years ago, at a conference on water-power policy, I heard the representative of the banking houses interested in the hydro-electric business tell the Secretary of the Interior, with considerable warmth of spirit, that one thing the men who make possible the development of our country by their contribution of capital would not stand for was any legal requirement of inspection of their accounts by the Government. A corporation has its rights, they contended, just the same as a private man in business. Last year in the same room, when utilization of a large power site owned by the Government was being discussed, I heard those asking for the permit dismiss the question of Federal inspection of their books with the remark, 'That need not be discussed, our books will of course be always open to any authorized representative of the Government.' The ultimatums pronounced by the ambassadors from Wall Street, State Street and West Adams Street are short-lived in the present atmosphere of popular interest in these business questions."

To go back to our first thought that progress is going to "get there" "nevertheless and notwithstanding," the situation is much like that of a trolley car or automobile trying to cross a busy street. People and traffic will continue to hold up the car by passing in front of it like so many obstructionists until the law, personified by the traffic "cop," gives the car the sign to come ahead. Then the pedestrians have to look out for themselves and let the car pass. The car loses a little time, and so do the people, but eventually all get on and no harm is done. So it will be with the questions that Congress or State Legislatures are called upon to decide. Ultimately, they will be settled the right way, and the sooner opposition is withdrawn the sooner conditions will adjust themselves to everyone's satisfaction. Right is the good of the majority, and private interests mindful only of their profit will do well to accept the inevitable without expensive delay. It it futile to hinder progress.

AIDED MATERIALLY IN SAVING BLACK HAWK MINE FROM FIRE

Bureau of Mines Rescue Crew Commended Highly by E. L. Carpenter of the Company

Unstinted credit is given the Bureau of Mines for its part in the extinguishing of the fire in the Black Hawk Mine at Black Hawk, Utah.

According to E. L. Carpenter, of the Black Hawk Mining Co., the Bureau of Mines men did work that aided greatly in saving the property.

"At the time the fire was discovered," says Mr. Carpenter, rescue car No. 2 was close at hand and within eight hours was at the mine. It took fifty-nine days to extinguish the fire, and during this time Dr. J. C. Robert, the representative of the Bureau of Mines in this district, spent most of his time with us and gave us the benefit of his experience in such matters. This we found invaluable. Together with the efficient leadership of Messrs. G. W. Riggs and C. S. Arthur in helmet work, in a large measure aided us in saving the property.

"I cannot speak too highly of the cooperation and efficient aid rendered us by the Bureau of Mines representatives and the benefit to us of the equipments carried on the rescue car."

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EDITORIALS

FETISH OF COMPETITION HAS BEEN WORSHIPED TOO LONG

The production of copper, lead and zinc could be and, we believe, should be, so handled as to bring to the nation producing them the advantage which their highest use creates. Just at this time the price of copper and zinc is at an abnormal level, and yet this level might be maintained continuously, and its maintenance be of untold benefit to this country. The use of hydro-electric power has made copper almost an industrial necessity. That the copper of this country should have been sold to foreign nations in the past at prices slightly above the actual cost of production has depleted our own copper resources, and given foreign nations undue advantage in industrial development. Mr. John D. Ryan calls particular attention to this situation in a statement before the Federal Trade Commission in the following language:

"I long ago came to the conclusion that this country, which is the great storehouse of the natural resources of the world, practically has thrown away its substance since the beginning. It has robbed itself of its mines, its forests, its soil. It has sold its natural resources in competition with itself, one forest track with another, one farm with another, in the severest and bitterest kind of competition anywhere in the world.

"The copper business is in comparatively few hands, that is, five or six concerns control, say, 80 per cent. of the copper. But under the existing laws those concerns are driven to such competition, the one with the other, that in the past ten years the foreign buyers paid, delivered at their ports, 14.38 cents per pound, while domestic buyers paid 15.21 cents, or eighty-three-one-hundredths of a cent per pound more, practically seven-eighths of a cent per pound in the foreigner's favor. That difference represents the cost of manufacturing raw copper into wire, or into other products, so that the German has obtained his manufactured product at the price of raw copper to the domestic manufacturer."

Mr. Ryan, chairman of the National Foreign Trade Council, expressed these views to the Federal Trade Commission as a reason why authority should be given for such trade combinations as will enable the producers of the United States to compete in foreign markets with countries where trade combinations are permitted and approved.

The JOURNAL fully approves Mr. Ryan's recommendation, but believes that recommendations should go still further and provide for such cooperation in domestic trade as would permit more perfect cooperation, and do away with the wastes which are now inherent under the present competitive system.

We believe that the Federal Trade Commission should be given ample power to permit any competition which will make for the public good, leaving to the Department of Justice the prosecution of any combination, the operations of which shall work injury to the public. The fetish of competition has been worshiped altogether too long. Big business is a necessity, and the distinguishing feature of our modern industrial life. Efficiency of production should be the basis and every combination which makes for efficiency and gives to the

consumer a proper share of the benefit should be encouraged rather than penalized. By all means let Congress authorize combinations to deal with foreign trade, but let it go still further and provide authority for such industrial combinations under strict Governmental supervision and control as will tend toward the highest productive efficiency.

GOOD STILL POSSIBLE IF CHAIRMAN WALSH RESIGNS

The JOURNAL has been asked whether its demand that Mr. Frank P. Walsh, chairman of the Commission on Industrial Relations, should resign his position was to be considered seriously. It has been urged that Mr. Walsh's conduct of the Commission's affairs has been so flagrantly partisan as to nullify entirely any possible effect of the work of the Commission.

This fact was offered as a sufficient reason for congratulation that a disturbing agency had thwarted its own power to do harm.

The JOURNAL will agree that when this commission lost its poise as an impartial medium of investigation, it became a disturbing agency, but it does not agree that an official report from what was intended to be an arbitral commission, but in fact became a bitter inquisition, will lose its evil influence because a few, or even a majority of the people, are advised of its partisanship.

Its report will still be the report of an official commission, created by Congress and appointed by the President, by and with the advice and consent of the Senate.

The people will be loathe to believe that the drawing and the enactment of the law and the appointment of the commission were engineered by selfish interests. Only those who are familiar with the peculiar methods of the labor lobby will comprehend.

In consequence, undue regard will be given by many to any report this commission may make. This, however, is not the most pernicious effect.

So much of service was needed and to be expected from this commission, that its failure to serve its purpose will constitute its greatest harm—not the bad which actually results, but the good which fails.

The JOURNAL greatly regrets that an agency with so great power for good should cast aside its opportunity.

It may be said that Mr. Walsh having been a bitter inquisitor as one sometimes needs be in order to get all the facts, now that the facts have been developed, will become the impartial chairman. But all the facts have not been developed. For example, the real history of the Colorado labor trouble has not been brought out by the Commission. The sub-sub cellar has been keenly scrutinized for evidence that certain New York investors are responsible for the Colorado situation, but practically no effort was made to get the whole truth.

Some day, perhaps, the real story of the Colorado trouble will be made public.

The JOURNAL again urges that Mr. Walsh shall take himself out of the path through which the Commission on Industrial Relations under the guidance of a judicially-minded chairman even yet may perform an unmeasured public service.

GREATER OPPORTUNITIES OFFERED IN GOLD MINING

The present movement looking to a stimulation of our trade with South American countries finds among its leading obstacles the difficulty of extending the long-time credit to which these countries are accustomed.

It demonstrates the need of more money in order that our commerce may benefit by these immense fields of trade, to a large extent abandonded by the foreign merchants who have heretofore supplied their needs.

Given a sufficient gold supply upon which to base the extended credit, trade with the South American countries, upon a large scale, is assured to the United States.

It is stated that the note issues of the great European banks have more than doubled during the first nine months of the war, while the gold holdings have increased less than 20 per cent.

With the restoration of peace in Europe will come an enormously increased demand for capital with which to restore its industrial enterprises, while our own growing industrial demands and the need for financing foreign trade greatly will increase the demand for gold.

The JOURNAL believes that gold mining in the West offers greater inducements for investment than ever before in our history.

MINING CONGRESS STRIVES TO REDUCE MINE DANGERS

To produce the fuel which cooks your meals, and warms your house, eight human lives are sacrificed every working day of the year. Many of these lives could be saved to their families and to the nation's need of service, by your assistance.

Seven years ago, ten lives were sacrificed daily in the production of a smaller amount of coal.

The American Mining Congress began its campaign for greater safety in mining in 1906. Its first effort looked to Federal aid. The creation of a Federal Bureau of Mines was the result. In 1907 for each million tons of coal mined 6.93 fatalities resulted. In 1915, 4.81 lives were lost for each million tons of coal produced—a decrease of 34 per cent. in eight years.

Your assistance in arousing public sentiment will help further to decrease these losses. The American Mining Congress will strive to enlist every agency to protect the lives of the men who labor in the darkness under the earth.

MINING DESERVES MORE AID FROM GOVERNMENT

There is need for the men engaged in the mining industry of the country to be more familiar with affairs in Washington. The fact that this has not been the case is responsible in no small degree for the unfair proportion of Government aid that is being given mining as compared to agriculture.

These two backbone industries of the country deserve fostering by the Government. More money could be spent profitably on Federal agricultural work. Twenty years from now it is not improbable that the agricultural appropriation will be twice its present size. This will be a result of the general realization that money spent in this way is good business for the country as a whole.

The same is true of mining. The mines of the country produce almost as much new wealth each year as do the farms. Really mining should be receiving more aid from the Government than agriculture as it is a more highly scientific business. Results are obtained only after longer and much more expensive experimentation.

At any rate it is very evident that mining is not receiving its fair proportion of the Government's appropriations for fostering development. To secure their share, miners must make their influence felt in the halls of Congress. Coordinate action of a persistent type is the only way in which the desired result can be achieved.

MINING PRESS SHOWS COOPERATIVE SPIRIT

We are grateful to the mining press for the reproduction of a number of articles taken from THE MINING CONGRESS JOURNAL. In this way additional circulation has been gained to matters of value to those interested in the mining industry. While there is not even an ethical obligation to give credit for news matter, in most cases THE MINING CONGRESS JOURNAL was mentioned as the source of the information. This indicates a friendly spirit of cooperation that we are very glad to see.

WAR EMPHASIZES MINERAL INDUSTRY'S IMPORTANCE

The importance of the mining industry to the world's affairs is being especially emphasized in the war countries of Europe. Germany's power is being measured by her control of iron —a control which if not disturbed by foreign importations undoubtedly would give her the mastery.

It is stated that Germany has control, through her own territory, Belgium and that part of France which is in her command, of thirteen twenty-seconds of the iron supply of Europe.

It is estimated that Germany is now in possession of 86 per cent. of the total iron resources of France, and 89 per cent. of its coal.

We call attention to this additional illustration of the importance of the mineral industry.

OPERATORS TO PROFIT BY INSURANCE MERGER

In all lines of endeavor improvements constantly are being installed to lower insurance rates. Great saving in insurance premiums is made, for instance, by the installation of sprinkler systems.

Considerable initial expense frequently is undertaken to save a portion of the yearly payments to the insurance companies.

The combination recently of a number of strong insurance companies to underwrite mining risks promises to be a blessing to the coal operators. It will enable them to put actual figures into the columns of their cost sheets, where before there was no certainty as to one of the important features in calculating cost.

This is the most important benefit that the insurance combination gives operators, but it means much to all those who profit by safer mining methods. Just as it is possible for the owner of a manufacturing plant to install a sprinkler system and reduce premiums, so will it be possible for the mine operator to install safety devices and reduce insurance expense. There will be a more friendly feeling toward the safety idea. Precautionary measures will not be undertaken with the feeling that it is an obligation heaped upon already hard-pressed operators, who have had such difficulty in recent years, in making both ends meet. It will be done with the knowledge that an actual profit is resulting.

COOPERATION TO BENEFIT STATISTICAL ANNUALS

Decided good doubtless will result from the arrangement made for cooperation between the editors and compilers of the two important American annuals having to do with mineral production.

The director of the Geological Survey has agreed with G. H. Roush, editor of *Mineral Industry*, to cooperate with regard to mineral statistics. The Survey will furnish the figures for production within the United States, while *Mineral Industry* will furnish foreign returns.

This cooperative spirit will benefit both volumes and the public will secure the advantage of statistics which do not conflict. The discrepancy has been slight in recent years. It is beneficial, too, in that men in the business will have one less statistical inquiry inflicted upon them.

FEW COMPLAINTS MADE BY COPPER PRODUCERS

Despite Loss of Business in Neutral Countries, Prices Continue To Rise

There is evidence at the State Department that copper producers are not at all satisfied with the loss of their market in some of the neutral countries, but the department seems to have satisfied them that nothing can be gained by clamoring for immediate action.

No attempt is made to deny that the Allies are interfering unjustly with American commerce. It is considered, however, that the situation is so abnormal that time should be given for working out a plan of procedure.

Despite the restriction of general commerce, and the loss of their principal customer, Germany, American copper interests are not faring badly. Outputs are practically normal, and the price is between 8 and 9 cents per pound higher than it was at this time last year.

While exports of raw copper are slightly under the forwardings for the corresponding period of last year, this is more than made up by the exports of manufacturers of copper.

Italy's entrance into the war may have stopped some copper going from that country into Austria and Germany, but it is believed at the State Department that little copper has found its way across the Italian frontier for many months. The necessity of Italy for increased supplies of war materials, doubtless, will increase her needs to an extent which will more than compensate for any loss of market in Austria and Germany.

England and France continue to consume copper in very large quantities for the manufacture of war materials.

It is a noticeable fact that despite the huge expenditure of ammunition and the record-breaking amount of military equipment being used, that it is very difficult to establish higher consumption figures than those in times of peace. The war has interfered decidedly with the output of many of the industries which are large consumers of copper.

Staff Is Increased

James Aston, metallurgical engineer, has been added to the staff of the Bureau of Mines. Alfred W. Gauger, jr., a chemist, also has been designated for duty. Harold M. Eastman has been appointed chemist in radio activity, and assigned to the bureau's Denver laboratory.

COLORADO LEGISLATURE PASSES STRINGENT LAW TO STOP HIGHGRADING

Ore Buyers Required to Furnish $5,000 Bond—Various Safety Devices Made Compulsory—Act Providing for Stricter Assessment of Mining Properties for Purposes of Taxation is Added to Statutes

Colorado

(These bills were passed at the last session of the Colorado Legislature.)

Senate Bill 258, by Senator Elliot. This act provides for the regulation of the business of milling, sampling, concentrating, reducing, purchasing and reserving for sale ores, concentrates and amalgams bearing gold or silver, gold dust, gold and silver bullion, nuggets and specimens.

The act makes it unlawful for anyone, without first procuring the license herein provided for, to engage in the business of milling, sampling, concentrating, reducing, purchasing or receiving for sale ores, concentrates or amalgams. Anyone engaged in such business shall pay a license tax of $100 per annum for each place of business within the State. No license shall be granted unless the members of the firm shall be bona fide residents of Colorado. No license will be granted to any joint stock company or corporation organized under the laws of any other State or foreign country unless such company has complied with all the laws of Colorado relating to foreign corporations doing business within the State.

The act provides that full publicity be given to the application for license before it is granted.

BOND REQUIRED

Each application must be accompanied by a bond to the people of Colorado for $5,000 with two or more sufficient securities and conditioned that the obligor will not violate any law relating to such business.

All ore buyers shall keep and preserve a book in which shall be entered at the time of delivery, all ores received, as well as the person making the delivery with the net weight and amount, and a short description of each lot, together with the location of the mine from which the ores are said to come.

The Secretary of State is empowered to give permission to anyone making an affidavit as to the loss of ores by theft, to examine the records of the ore buyers. Heavy penalties are provided for violation of any provision of this act.

PROVIDES SAFETY DEVICES

House Bill No. 220, by Messrs. White and Roberts. This bill regulates the construction, equipment and operation of metalliferous mines, mills and metallurgical plants. All shafts according to the provisions of this bill, must have collars which will prevent persons from falling into them. All shafts equipped with cages must be supplied with safety clutches and safety chains. The chains must be constructed so that in the event of the cage being raised to the sheave wheel the cage will be held and prevented from falling into the shaft. In shafts equipped with buckets, shaft doors must be constructed that will prevent any material falling into the shaft from dumping. Cages must be equipped with gates which must be used when passengers are handled.

FIXES LIMIT FOR LIENS

House Bill 155, by Mr. Sabin. This act provides for the revision of certain existing laws and amends them to read as follows: The act applies to all persons who shall do work or furnish materials for mining or milling. No lien claimed by virtue of this act shall hold the property longer than six months after the last work or labor is performed, or materials furnished, or after the completion of buildings or other improvements, unless an action shall be commenced within that time to enforce it and a notice of *lis pendens* shall be filed for record within that time in the office of the clerk and recorder of the county in which the land is situated. It is provided that where mines are worked through a common shaft, tunnel, incline, adit, drift or other excavation, it shall be deemed one mine.

ASSESSMENT

House Bill No. 195, by Messrs. Taylor, Tonge, Mayer, Roberts, O'Rourke, Doyle, Sabin, Green, Crist, McNair, McDevitt, White and Du Praw. This act provides for the assessment for the purpose of taxation of mines and mining claims bearing gold, silver, lead, copper, or other precious or valuable minerals and possessory rights therein classified under the laws of Colorado as producing mines. Operators of mines are required to make out and return to proper officials between January 1 and 15 of each year, a report giving the name of the mine or mining claim; the name of the owner; the number of acres contained; the number of tons of ore extracted during the present year; the gross value of the ore extracted; actual cost of extraction, which shall include the cost of labor and workman's compensation insurance, but shall not include the salaries of any officials and agents not actively and consecu-

tively engaged in or about the mine; actual cost of transportation to place of reduction or sale; actual cost of treatment, reduction or sale; the net proceeds after deducting the above expense. The statement is to be signed and sworn to by the managing agent of the property.

ONE-FOURTH VALUATION IS BASIS

The assessor, on receiving the statement is to determine the proceeds of any such producing mine for the preceding year, and shall value the property at a sum equal to one-fourth of the gross proceeds of the preceding year. Provided that any number of contiguous claims owned and operated as one property by the same person or association, the gross production of which is more more than $5,000 a year, shall be deemed as one producing mine.

In case the mining claim shall not be patented or entered for patent, but shall be assessible and taxable under this act, possession shall be the subject of this assessment. If the mining property be sold for taxes the sale for such tax shall pass the title and right of possession to the purchaser.

Arizona

This bill was passed recently by the Arizona Legislature.

Sub. H. B. 6, Sec. 1. That paragraph 3654, title 29, chapter 2, Revised Statutes of Arizona, 1913, Civil Code, be and the same is hereby amended to read as follows

"3654. All miners, laborers and others who may labor, and all persons who may furnish material or merchandise of any kind, designed or used, in or upon any mine, or mining claim, and to whom any sum is due for such labor or material, or merchandise shall have a lien upon the same for such sums as are unpaid. And said lien for labor performed, or material or merchandise furnished, shall attach to said mine, or mining claim, whenever said labor was performed, or said material or merchandise was furnished in or upon said mine or mining claim, under any of the following conditions:

"(1) Under or by virtue of a contract between the person performing such labor, or furnishing said material, or merchandise, and the owner of said mining claim or his agent, trustee, receiver, contractor or contractors.

"(2) Under or by virtue of a contract between the person performing such labor, or furnishing said material or merchandise, and the lessee of said mine or mining claims, or his agent, or contractor, where the terms of the lease from the owner of said mine or mining claim, to said lessee, permit said lessee to develop or work said mine or mining claim.

"(3) Under or by virtue of a contract between persons performing said labor, or furnishing said material or merchandise, and any person or corporation having an option to buy, or contract to purchase said mine or mining claim, from the owner thereof, where said option or contract permits the person or corporation, having said option to buy, or contract to purchase, to go upon said mine or mining claim, and to work or develop the same.

"The lien herein provided for shall attach to the mine or mining claim in, or on which, said labor was performed, or material or merchandise furnished, in preference to any prior lien or encumbrance, or mortgage upon said mine or mining claim, except such liens, encumbrances, or mortgages which may have attached to any mine or mining claim, prior to December 5, 1912.

"Provided, that the provisions of this paragraph shall not apply to any mine or mining claim worked under lease, bond, or option, by any person, partnership, association, company or corporation, under lease from the owner thereof, when the owner of such mine or mining claim shall have posted at the collar of all working shafts, tunnels or entrances to the mine, entrances to all boarding houses, and shall have mailed by registered mail to the Secretary of any labor union at such camp, if any exist, the notice provided for in section 2 of this act, on or before the day the lessee or those working said claim under bond lease or option to buy begin operations and shall file for record in the office of the County Recorder of the county within which such mine or mining claim is situated, within thirty days from the date of such lease, bond or option of said claim, a notice to the effect that said mine or mining claim will not be subject to the lien provided for in this act, and the owner or owners of said mine or mining claim, will not be responsible for any debts of said person, partnership, association, company, or corporation operating or working said mine or mining claim under lease bond or option; and provided further, the lessee of said mine shall keep said notices posted upon said claim or claims, and upon his failure to do so shall be deemed guilty of a misdemeanor.

"It is hereby made the duty of the County Recorder to record all such notices upon the payment of a recording fee of one dollar ($1.00).

"Sec. 2. The notice provided for in section 1 shall be substantially as follows:

"Notice is hereby given to all persons, that the undersigned —— is the owner of —— mine or mining claim, hereinafter described, with all the improvements thereon.

"That said mine or mining claim is now in the possession of and is being worked and operated by ——, pursuant to a contract (or option to purchase or lease) made and executed by the undersigned in favor of said —— dated ——; said contract to be in force up to and including the —— days of ——, 19—.

The undersigned is not working or operating said mine or mining claim, or any part thereof, and does not intend to work or oper-

ate said mine or mining claim, or any part thereof, or purchase any supplies or materials therefor, during the life of said contract with said ——.

"The name of said mine or mining claim is ——, situate, lying and being in —— mining district in —— County, in the State of Arizona. The location notice of said mine or mining claim being duly recorded in book —— at page —— of notices of locations of mining claims, in the office of the County Recorder of said —— County, State of Arizona, to which book and page reference is hereby made for a more particular description of said mine or mining claim.

"In witness whereof, the said —— has up to and including the —— day of ——, 19—.

"Witness:

"Sec. 3 All acts or parts of acts in conflict with the provisions of this act are hereby repealed."

Comment on this law by a member of the Arizona Chapter of the American Mining Congress is as follows:

"This bill passed both branches of the legislature with a substantial majority, and was passed to the office of the Secretary of State without the Governor's signature, the reason for the failure of the Governor to sign the same remains unannounced.

"The bill became a law June 11. It will not be referred to the people, as it is so apparent that without such a law there will be no development of mining properties in Arizona.

"Another law was initiated and voted on at the last election termed the anti-black list law. This measure became a law by a vote of 18,207 for the measure with 17,444 against; a similar law to this was passed in Kansas and has been held unconstitutional by the United States Supreme Court; this law is now before the courts.

"The anti-alien law, which provides that 80 per cent. of all persons employed should be native born or naturalized voters was also initiated at this election and passed by a vote of 25,017 for the measure, with 14,323 against. Since it was necessary to understand English to become naturalized, this law was confiscatory and has been held unconstitutional by the Supreme Court and which decision doubtless will be upheld by the Supreme Court of the United States, as the law is in conflict with treaty rights of other nations.

"Will the people of Arizona continue to be progressive and throw off the yoke of radicalism? If so, the State will enter upon an era of prosperity and she will be one of the grandest States of the Union, but to do so the people who are paying the taxes, such as the farmer, merchant, cattlemen, sheepman, miner, and ones who pay the bills, must get together, throw off their differences, get behind the mining industry and work for one object—'Better and saner laws for the new State.'"

PROSPECTING FOR MOLYBDENUM STIMULATED THROUGHOUT WEST

Price of Metal Has Increased Remarkably—Being Used Extensively in Cannon, It Is Declared

The senational rise in the price of molybdenum from 20 to 30 cents to as high as $1.75 a pound, has increased greatly the interest in this metal throughout the West. Molybdenum is used almost entirely for the purpose of toughening steel. As only a small percentage is needed, the market is limited.

A popular belief that molybdenum is used in powder is not based on fact. None of it is used directly in the manufacture of explosives.

It is declared that Germany is using molybdenum extensively in cannon.

FOUND IN ALL GRANITES

Molybdenum is found in all granites. Usually the percentage is too small for recovery, but in several districts in the West granite has been found containing a considerable percentage of the metal. The best-known source of the metal is a mine west of Georgetown, Colo. Important amounts of the metal are being secured from a mine at Lake Chellan, Wash. The mines at this point are on a cliff 900 feet above the valley, and in one of the most picturesque spots to be found in the world. Some molybdenum is found in Arizona and in the Hermit Mountains, of New Mexico.

An increasing amount of molybdenum is being consumed by the manufacturers of incandescent lamps. A small amount of molybdenum wire is used in each lamp. The aggregate of this consumption, however, is several tons per year.

USED IN TOOL STEEL

Combinations of molybdenum, cobalt, chromium and tungsten are being used in tooth steel.

While the uses of molybdenum are increasing steadily, prospectors are cautioned by Government experts that the demand can easily be over supplied. At present prices, large profits are being made by those mining the metal under anything like economical conditions, but it is pointed out that a small increase in the present production would result in prices which would make the mining of the metal unprofitable under most conditions.

GEOLOGISTS CONTINUE WORK IN MIAMI LEAD-ZINC DISTRICT

Field work in the lead and zinc districts of Oklahoma and Kansas is continuing under the direction of C. E. Siebenthal, geologist of the Geological Survey. At present he is working in the Miami District. Mr. Siebenthal is an expert in lead and zinc and his work is attracting considerable attention. He is engaged also in making a report on zinc deposits in Missouri.

RICE EXPECTS EXPLOSION REPORT TO BE A CLASSIC

Chief Mining Engineer Discusses Work at Pittsburgh and in Joplin District

Information that will be highly valuable in the prevention of explosions in mines is expected in the report which will be made soon of the experiments conducted at Pittsburgh by the Bureau of Mines. George F. Rice, chief mining engineer of the Bureau of Mines, was in Washington recently to make his report for the fiscal year.

"We hope that this report on explosions will be of much value to the miners of the country," said Mr. Rice. "The experimental mine has been shut down until we work up the data we have secured from 200 explosions. The experiments have been in progress two years.

TO BE READY IN FALL

"This information is being whipped into shape at the present time and will be ready for the printers in the early fall. Before the end of the year it should be in the hands of the miners of the country. It is difficult to give an idea of the value of the experiments. It will be necessary to see the entire report before a conception can be formed of its importance."

Mr. Rice also told of the important work that it being done in the zinc mining region of Missouri. Edward Higgin, mining engineer Bureau of Mines, and Dr. D. A. Lanza, of the Public Health Service, have been conducting some very valuable investigations into the health of miners in the Joplin region and in the sheet ground around Webb City. The danger to the miners from the dust in these mines has been demonstrated fully, according to Mr. Rice.

COMMENDS OPERATORS

Mr. Rice commends the operators of these mines very highly for the careful cooperation that they have given in the work of the Bureau of Mines and the Public Health Service. Every effort is being made to keep the dust out of the air. The Bureau of Mines has devised a breathing apparatus which is proving very efficient. Water is being piped directly to the faces. Water injecting drills are being used.

Mr. Rice states that the miners themselves are contributing very actively to the betterment of conditions in the zinc mines. At first they were rather scornful of the precautions being taken to prevent injury to their lungs from the flinty dust. Now, however, they fully realize the benefits to be obtained from these methods and are cooperating heartily with the Bureau of Mines men and the surgeons representing the Public Health Service.

CONDUCT OF CHAIRMAN WALSH IS LAMENTED

Coal Mining Review Questions Results of Industrial Relations Committee's Work.

In discussing the Commission on Industrial Relations, *The Coal Mining Review*, published at Columbus, Ohio, makes the following comment:

"The United States Congress created a commission to investigate the industrial conditions of the country and the cause of industrial unrest, strife, strikes and conflicts which cause the suspension of the operation of industry, idleness of wage earners and the destruction of life and property. Congress acted wisely in the creation of such an important commission.

"The Commission on Industrial Relations might have been one of the most important and potent factors of the country to eliminate industrial unrest and promote and establish industrial peace. The commission might have quietly, sincerely and earnestly pursued its investigations in such a dignified manner, as would command the respect and confidence of the American people. Every avenue of information was open to the commission and there was every reason to believe the commission would make its investigations complete.

"There was a great field for intelligent investigations. An excellent opportunity was presented to do a splendid work for the country and for humanity. Congress and the American people had a right to expect splendid results from the investigation and final conclusions of the work of the commission. Will the final judgment of the commission be impaired by the conduct of any of the members of the commission?

"The desire of some members of the commission, notably the chairman, to break into public print and prejudice many phases of our industrial life, before the work of the commission is concluded, may be harmful in its effect. It will be a matter of keen regret if the final judgment of the Commission on Industrial Relations is impaired by any member of the commission insisting on giving expression to his personal views of certain incidents of our industrial life, before the commission reports its findings to Congress."

Virginia Produces Less Coal

There was a slight decrease in the production of coal in Virginia in 1914. The output was 7,959,535 tons. The value was $8,032,448. These figures show a slight decline from those of the preceding year. This was due principally to the smaller demand for coke, it is stated.

GUIDE BOOKS CERTAIN TO BENEFIT THE WEST

Will Describe Its Resources in Readable and Easily Understood Language

F. L. Ransome Tells What Work, Soon To Be Published, Will Contain

That the West will profit immensely by the publication of guide books to its resources by the Geological Survey, there is not the slightest doubt expressed here. The books are to be in popular language and have been made highly interesting by the introduction of features new to technical reports. Director Smith has been giving much of his personal attention to this work. A portion of the work has been done under the direction of F. L. Ransome, who is in charge of Western areal geology. He comments interestingly on the forthcoming work:

"There has been a feeling in the Geological Survey for a long time," says Mr. Ransome, "that a greater effort ought to be made to attract the attention of the public to what the Survey is doing. Scientists have known all about us from the beginning, but with the general public we have had no touch.

"The plan to popularize as large a part of our work as possible, and give it a true educational value, having been adopted, it was not difficult to make a beginning. We decided to pick out four Western railroad routes, and issue books telling about those things in connection with them most likely to interest the average traveler. . These four routes were not picked out because they are the most celebrated in their line. There was no thought of this kind in making the selection. We had to begin somewhere and so we selected these four lines, expecting ultimately to get around to all the others.

WHAT BOOKS WILL CONTAIN

"The books will contain between 300 and 400 pages each, and will be on sale in the office of the superintendent of documents at a nominal price. We expect, however, that the railroads interested will republish the books in large numbers for the use of their patrons. The books will be well illustrated.

"Each book will contain maps showing the railroad in question and the country for 10 miles on each side of it. There will be a running description of topographic and geologic features of interest, and a brief history of whatever there may be along the line in the way of industrial development. Some attention will be given to the botany of the route, and the characteristic flowers and plants will be referred to in an intersting way.

"The effort in each case will be to be interesting without being technical. We shall avoid dry detail, and give no more geology than the ordinary traveler will care for. If it should seem necessary to introduce a small amount of technical data they will be given in foot-notes at the bottom of the several pages."

The four routes which are to be treated in the way referred to are the following:

The Northern Pacific Ry., from St. Paul to Seattle.

The Union Pacific Ry., from Omaha to San Francisco, with a description of the side trip from it into Yellowstone Park.

The Santa Fe Ry., from Kansas City to Los Angeles.

The coast routes, from Los Angeles to San Francisco, and from San Francisco to Seattle.

HOW DATA WERE GATHERED

"We had an interesting time gathering the data for the books," said Mr. Ransome. "First, we collected everything in the Survey bearing upon the question, and then we sent men into the field. One set of men made a motor car trip along the line of the Northern Pacific road, going over the route carefully, mile by mile, and making frequent stops. Another set of men traveled the length of the Union Pacific by hand car, also stopping frequently in order to get the information that was needed for the book. A third set went over the line of the Santa Fe, by hand car and by team.

"The railroads rendered us important service, and without their aid we could not have finished the field work as rapidly as we did. The facilities of these Western roads are rather large in these directions. The Santa Fe road, for instance, maintains a geological corps."

The forthcoming books will be the first of the kind ever published by the Government; if they are as successful as the authorities anticipate, they will not be the last. The Geological Survey has great funds of information which the public would read with much interest if it could be made available in untechnical form. The success of the railroad guides will mean efforts to put much of this information into popular language for general distribution.

MEETS CRITICISM

Congress would be very glad to have more work of this kind done not only by the Geological Survey but by the other scientific bureaus of the Government. It has been a matter of criticism for many years that the Government was piling up valuable information to which the public was entitled, but access to which they could not have because of the technical terminology employed by the scientific writers. In the Department of Agriculture this criticism has been largely met during the past few years by a regularly organized publicity bureau, which prepares popular bulletins on the work of the department and sends them to the newspapers and to individuals, as requested. The Geological

Survey, it is believed, could be equally useful to the general public, and much interest is being taken in the forthcoming guide books as its first real venture in the direction of popularizing its work.

IMPORTANT WORK ON OIL SHALES PLANNED THIS YEAR

Distillations to be Made in Wyoming Fields Where Especially Rich Deposits are Reported

Efforts to Distill Petroleum Profitably May Be Made Soon by Private Company

Correspondence reaching the American Mining Congress, the Geological Survey and the Bureau of Mines indicates that the article on the oil shale resources of the West in the June number of THE MINING CONGRESS JOURNAL excited great interest. In this connection it may be said that the work was begun two years ago by M. R. Campbell who has charge of the section of Western fuels at the Geological Survey. More recently the Bureau of Mines has been able to extend valuable cooperation in this work.

TO MAKE FIELD TESTS

Much of the field work which has been done in the oil shale regions of the West has been under the direction of D. E. Winchester. Mr. Winchester left Washington recently for Wyoming where he will make an examination of the outcrops along Green River. It has been reported to the Survey that the shales at this point are equal, if not richer than any others that have been found in the West. Samples will be taken to verify this conclusion. Mr. Winchester will make actual distillation tests. He carries a full outfit, which will be set up in the fields he will visit. He will spend four months in these examinations.

COST TOO GREAT

Judging from the tone of some of the letters received, the impression has been gained that oil shales can be handled commercially at this time. It is pointed out at the Survey that this is an erroneous conclusion. There is still a wide margin between the cost of producing a barrel of petroleum from shales and from natural wells. With petroleum at its present price it hardly is expected that the distillation process can be made cheap enough to compete with petroleum obtained from wells.

There are several reasons why oil shales can be handled with profit in Scotland, where they have been exploited for more than 100 years. Labor is cheap and plentiful there. The deposits are near the sea coast. There are no deposits of liquid petroleum in the British Isles. Much of the profit of the Scottish product is obtained from by-products. It is an important source of nitrogen.

GREAT ASSET

There is no tendency on the part of Government experts, however, to depreciate in any way the latent value of this great natural resource, which has been bestowed so generously on many Western States. The invention of a cheap process of distillation is considered well within the range of possibility. Increasing demands for a supply of nitrogen may hasten the development of oil shales.

In Scotland these shales occur in narrow veins and are mined as is coal in this country. In the United States there are places in several of the Western States where the shale formation exceeds 3,000 feet in thickness. If the 4-foot veins in Scotland can be mined with a profit, it is considered by some that operations could be undertaken profitably on the enormous deposits of this country. The percentage of petroleum content in this country also is very much greater than is the case in Scotland.

POSSIBILITIES ARE MANY

As none of the commercial companies has undertaken extensive experiments with oil shales it is possible that at least one large oil company will undertake this work soon. Some of the States having large deposits of oil shales also may undertake experiments. With all this work in progress Government experts will not be surprised if much cheaper methods of distillation are perfected.

LUPTON CONTINUES WORK IN THE BIG HORN BASIN

Chas. B. Lupton, a geologist of the Geological Survey has just taken the field in the Big Horn Basin to continue the work begun last year in this important oil field. His work will be done on the eastern side of the basin. This field continues to attract more attention than does any other oil field in the Rocky Mountains. This is due to the exceptionally high grade oil which is being found there. Mr. Lupton will have with him MacW. Ball and Robert Wood, geologists.

ALASKAN WORK STARTS EARLY AT SEVERAL POINTS

Considerable geological and topographical work already is under way in Alaska, according to Alfred H. Brooks, of the Alaskan Mineral Resources Division of the Geological Survey.

V. C. Witherspoon is in charge of the Juneau party which has been working for several weeks in that portion of Alaska. B. L. Johnson and his party are at Valdez, where they began work June 7. The parties under the direction of S. R. Capps and James W. Bagley began work on the same date in the Knik Arm District. G. H. Canfield is investigating water power sources in southeastern Alaska. The work began May 1.

MINING CONGRESS CONVENTION TO BE WELL ATTENDED

Judging from the numbers of mining men throughout the country who have announced their intention to attend the Mining Congress Convention in San Francisco, September 20 to 22, this year's assemblage will be the largest in the history of the organization.

Mining men are arranging their trips to the fair so as to be there at the time of the convention.

One of the advantages offered to those attending the American Mining Congress Convention this year will be the opportunity to attend the conventions of the International Engineering Congress, the American Society of Civil Engineers, the American Society of Mechanical Engineers and the American Institute of Electrical Engineers.

Never before have the conventions of so many technical societies been held, one following the other, at the same place.

It is desirable and will be profitable to the mining men intending to attend the Mining Congress convention to communicate with James F. Callbreath, Munsey Building, Washington.

RHODE ISLAND COAL FORMS IMPORTANT RESERVE

A detailed report on Rhode Island coal has just been completed by George H. Ashley, administrative geologist of the Geological Survey. Several months necessarily must elapse before the work can be put through the printing office. Mr. Ashley goes into the history of the attempts to work Rhode Island coal, and points out the reasons why it cannot be handled at a profit under present conditions. He shows, however, that the margin existing between present prices and the price at which this coal can be mined is not great. Rhode Island coal forms an important reserve and doubtless will be used over a considerable range of territory when competition becomes easier.

APPLY FOR CONTRACT TO TRY OUT RITTMAN PROCESS

H. G. James, secretary and general manager of the Western Petroleum Refining Association, and C. E. Braley, of the same association, held a conference last month with the Secretary of the Interior, and the acting director of the Bureau of Mines, with regard to the experimental use of the Rittman process for the refining of gasoline.

Some details of the arrangement remain to be perfected, but it is believed that the Rittman process will be given a good try-out upon a commercial basis.

A CLEAN UP AT ESTER CREEK, ALASKA
The pans contain $15,000 in gold dust

LEASE OF OSAGE OIL LANDS IS PERFECTED

Secretary Lane recently made public the result of the negotiations that he has been carrying on with the Osage Tribal Council respecting the leasing of the oil lands belonging to the Osage Indians in Oklahoma. Commissioner Sells, Superintendent Wright, and Mr. Williams, the oil expert of the Bureau of Mines, have been in constant session with the Indians, to whom all of the proposals for the leasing of these lands were presented. The Indians called in a body on Secretary Lane and presented him with a resolution, which was approved by the Secretary. The resolution was adopted unanimously by the Tribal Council.

NEW MEXICO BREAKS ITS RECORDS OF COAL PRODUCTION

New Mexico broke all previous records in its coal production in 1914. According to figures just made public by the Geological Survey, New Mexico is the only one of the Rocky Mountain States in which more coal was mined in 1914 than in 1913.

Traffic Developments of the Month

MONON COMPANY LOSES

Commission Refuses to Grant Request for Removal of Differential

The rate of 87 cents on coal to Chicago from mines in the Sullivan-Linton group of Indiana, has been found by the Commission not to be unduly discriminatory, as compared with the' rate of 77 cents allowable to the same destination from mines in the Brazil-Clinton district of the same State. This decision was handed down last month in the case of the Monon Coal Company, et al, and the Chicago and Eastern Illinois Railroad, et al.

The Sullivan-Linton field is only a few miles to the south of the Brazil-Clinton field, yet a differential of 10 cents is maintained. Mining conditions are the same. The seam of coal is the same. The coal is sold in the same market. The area covered by the two fields is smaller than almost any other area where competitive freight rates are recognized in other districts.

The reasonableness of an 87-cent rate was not covered. The only issue was the discrimination between the two groups. The object of the complainants was stated to be to market their coal in the Chicago market, which is the natural market, on an even basis with their next-door neighbors, situated in the 77-cent field.

The Commission, however, took a different view of the matter. Commissioner Harlan, who made the report of the Commission said in part:

"The differential complained of has been in effect since 1896, when it was reduced from 13 cents. The complainants entered the field with knowledge of the differential, and by their own testimony were able to compete so long as the coal from the distant group was of a superior quality. Transportation conditions have not changed, but the mines have been developed,' and the operators in the Sullivan-Linton group now find that their markets are being restricted. This same condition exists also in certain coal fields in the State of Illinois, as we found in the Illinois coal cases, supra. In Baltimore Chamber of Commerce v. B. & O. R. R. Co., 22 I. C. C., 596, 603, we said that we have not the power 'to require railroads, in the face of varying trade conditions, to adjust their rate schedules in such manner as to insure to a market the continuance of a trade it has once enjoyed. The requirements of the law are that transportation rates must be reasonable and must not be unjustly discriminatory or give undue preference.'

"And again in 'In re Advances in Rates for Transportation of Coal,' 22 I. C. C., 625, we said:

'It is not the duty of a carrier to place all of its shippers in a position to meet the markets which they may desire to supply. The rate made by a carrier must be just and reasonable for the service which it gives and should have relation to the cost of that service and the character of the commodity transported.'

"We have said that the reasonableness of the 87-cent rate is not in issue, but that the case is one of alleged discrimination only. This allegation is not sustained of record. The situation in which the operators of the Sullivan-Linton group now find themselves is due not to a rate schedule that is unreasonable or unjustly discriminatory, but largely to a trade condition which has developed in a neighboring field, namely, the opening of new mines in the Brazil-Clinton field, particularly in the No. 4 vein."

AUTHORIZES NEW RATE

Commission Allows M. K. & T. to Equalize Charges via Galena

In the matter of ore shipments from Joplin, Mo., the Commission has ordered that the M. K. & T. R. R. and its connections be authorized to establish certain rates on ores from Joplin, Mo., to St. Louis, and points taking the same rates, via their longer route through Galena, Kans., the same as the rates concurrently in effect on like traffic from there to the same points, via the shorter lines of the Missouri Pacific Ry. Co., or the St. Louis & San Francisco R. R., and to maintain higher rates at intermediate points, provided that the present rates at the same intermediate points are not exceeded, and shall not exceed the lowest combination of rates in more distant points. This order covers lead and zinc ore, pig lead, bar lead, sub lead, white lead, zinc, spelter and litharge, red lead and chrome yellow. A minimum weight of 50,000 pounds is fixed for the lead and zinc ore, except when the marked capacity of the car is less, then the marked capacity will govern; but under no case is the minimum weight to be less than 40,000 pounds.

Smelter Wins Case

Reparation has been awarded against the initial carrier in the case of the Great Western Smelting & Refining Co. against the Baltimore & Ohio Southwestern R. R. The claim had its origin in damages due to misrouting and the failure of the carrier's agent to advise complainant that the released value of the shipment was not stated in the bill of

lading, where statement of released value would have rendered applicable a lower rate.

Get $6,000 Reparation

Reparation in the amount of $6,034.48, together with interest from June 1, 1913, has been awarded in the case of the Schrager Coal Co. v. The Delaware, Lackawanna & Western and Central of New Jersey Railroads. The reparation was awarded on the establishment that unreasonable charges had been collected by the carriers of coal from Schrager Washery, near Taylor, Pa., to tidewater points in New Jersey.

Restore Old Rates

After a determined effort to increase the rates on ore and smelter products from Salt Lake City and other points in Utah, Nebraska and California to eastern destinations, they have returned voluntarily to their former tariff. As a result, the commission has set aside its suspension order covering the tariffs providing for the increases.

Texas Sulphur Becoming Factor

Evidence that Texas sulphur is coming into competition with the Louisiana product, which has dominated the market for a number of years, is shown by an order of the Interstate Commerce Commission allowing Freeport and Bryanmount, Tex., rates to points in Alabama, Tennessee and Georgia, which insure non-discriminatory rates as compared with those from Sulphur, La.

Pig Iron Rates Suspended.

Proposed increased rates on pig iron in carloads from Virginia furnaces to various parts in trunk line and New England territories have been suspended until December 29. A former order of the commission suspended these rates from March 1 until June 29.

Smelter Company Wins Case

Reparation has been awarded to the American Smelting and Refining Company in its case against the Chicago, Rock Island and Pacific Railroad. The Smelting company's charge of unreasonable rates collected on copper sulphate from Omaha to Silvia Shops, Ill., is maintained.

Allowances Suspended

Proposed allowances on anthracite coal at Hauto and Nesquehoning, Pa., have been suspended by the Commission until October 15.

Coal Operators' Case Dismissed.

The case of the Coal Operators' Traffic Bureau, of St. Louis, against the Baltimore & Ohio Southwestern R. R. has been dismissed at the request of the complainant, and upon consideration of the record by the Commission.

Coal Company Sustained

The Hosteler Coal and Coke Company was sustained in its contention against the Chicago, Rhode Island and Pacific, in which unreasonable charges were claimed on anthracite coal from Milwaukee and Pocahontas Island.

Petroleum Rate Suspended

Proposed increases in the rate on petroleum in carloads from Kansas points to Joliet, Ill., have been suspended until September 29. The present rate on this business is 22 cents, the proposed rate is 27 cents.

Hearings Assigned

Hearings have been assigned by the Commission as follows: West Consolidated Coal Co. v. the Chicago, Terre Haute & Southwestern R. R.; Chicago, July 19, Examiner McKenna.

POTASH DISCOVERED IN DEEP WELLS IN TEXAS

Potash has been discovered in a number of deep wells in the Pan-handle region of Texas. In the vicinity of Amarillo, Tex., and Tucumcari, N. Mex., especially good results have been obtained, according to observations made by Dr. William B. Phillips, of the University of Texas.

The presence of potash in this region also has been proven by an examination of drill cores made during exploration for oil.

The University of Texas has given valuable assistance in stimulating and inviting prospecting for this much-desired mineral.

LEHIGH COAL AND NAVIGATION COMPANY HOST TO COAL MEN

The Lehigh Coal & Navigation Co. was host recently to two large parties. Following the convention of the New England Retail Coal Dealers' Association, all those attending visited the mines of the Lehigh company. The following day the engineers, who attended the meetings of the anthracite section of the American Institute of Mining Engineers, visited the property. E. W. Parker represented the Geological Survey at each of these meetings.

RADIUM MINE
Paradox Valley, Colo.

RADIUM INSTITUTE DOING GOOD WORK

Dr. C. L. Parsons Gratified at Success of Denver Laboratory of Bureau of Mines

Radium production at the Denver laboratory of the Bureau of Mines has been reduced to a regular manufacturing basis, according to Dr. C. L. Parsons, who just has returned from a visit of inspection to the laboratory. Dr. Parsons is elated highly over the work being done at Denver, and at the mine in Paradox Valley. He characterizes it as "splendid."

To date, there have been delivered 1,400 milligrams of radium metal. Three hundred and fifty milligrams of this amount was delivered during the last days of June.

Work on a larger scale at the radium mines will be undertaken shortly. Machinery is to be installed to decrease the amount of hand work.

The amount of ore that may be mined under the present lease is limited to 1,000 tons of ore sorted to 2 per cent. After the 1,000 tons are extracted, the mines will be turned back to the Crucible Steel Co.

OREGON GOLD DISTRICTS COVERED BY NEW FOLIO

A number of Oregon gold districts are to benefit from the work of Geologists D. F. Hewitt and J. T. Pardee, who are engaged in preparing a geological folio of the Sumpter quadrangle.

Mr. Hewitt at present is completing the field work by doing reconnaissance work just outside of the quadrangle.

Much credit for the high rating of the library is due to the years of painstaking attention bestowed upon it by Miss —— McCord, the librarian.

NEW YORK COMPENSATION LAW PRAISED BY MITCHELL

Chairman of State Industrial Commission Says Its Worth Is Established

Insurance Commissioner Thinks It Should Cover Still Greater Field

John Mitchell, chairman of the State Industrial Commission of New York, believes that the Workmen's Compensation Law in that State is a great success. The law has been in force a year.

"It is a mighty good thing," says Mr. Mitchell. "It places the cost of accident where it belongs, taking it from the individual, who cannot stand it, and putting it on the community. For after all, practically all of the expense involved is passed on to the general public in slightly increased prices."

Mr. Mitchell was asked if the sense of security given workingmen by the compensation laws lessened the incentive to save. In reply to this question he says:

SAYS SAVING IMPOSSIBLE

"I should say it has had no such effect. You must distinguish first between the small class of skilled, organized workmen and the vast number of unskilled laborers. Laborers cannot save, no matter what the incentive. Their wages are lower than they should be. Their pay is so small that a few dollars accumulated quickly disappear in times of unemployment or sickness. Labor's reward has not kept pace with the pay in the trades. Nor has it advanced anything like the cost of living. The lot of the unskilled workman is not enviable."

Mr. Mitchell was asked if the ignorant workman is protected against a scheming employer under the compensation law.

"They all get the same treatment," said Mr. Mitchell, "If an injured employe accepts a private settlement it is necessary for the agreement to be approved by the commission, and, of course, if the workman is not getting fair treatment, we do not accept the settlement. By far the larger number of cases are settled without any fight, on a basis we think fair to both of the parties concerned.

LITTLE DISAGREEMENT

"Between 30,000 and 40,000 awards have been made through us in the eleven months for injuries. On an average, about 75 per cent. of these go through automatically, neither side objecting. In the other 25 per cent. of cases the awards come up for brief discussion. Fortunately, however, the procedure to be followed is marked out so clearly that little is left to argument."

An official of the New York Insurance Department finds some fault with the law. He contends:

"I should like to see the law amended to increase its coverage. It was drafted in the interest of the unions, and although its scope

was afterward increased, it is not broad enough yet. Massachusetts has a better compensation system, which protects all classes of workers. I had hoped to see New York's law amended before this, and believe it will be eventually. The law now specifically exempts from its benefits those employes not included in forty-two groups. Among the exceptions are farm laborers and domestic servants."

METHODS OF INSURANCE

"There are three methods of providing for the insurance required under New York's law. Under the first an employer may pay his own losses by satisfying the commission of his financial ability to pay such compensation himself. Where the method is elected the commission requires the deposit of securities to make payment of awards certain. The second method allows the employer to insure through the State fund, the third provides for insurance through a stock corporation or mutual fund. There are only sixteen mutual associations operating, and by far the largest amount of insurance is carried in the stock companies. The last method has proved the most popular.

"Where an employer chooses to pay his own losses direct there is an incentive for him to discriminate against men with dependent families because of the much higher penalties provided for such cases. The death of a single man with no dependent relatives is less expensive for the employer."

GEOLOGIST FORESAW THE POSSIBILITY OF MT. LASSEN ERUPTION 20 YEARS AGO

J. S. Diller, a geologist of the U. S. Geographical Survey, will visit Lassen Peak where he will make detailed notes in connection with the eruption. Twenty years ago Mr. Diller made a geographic reconnaissance in this territory, and at that time predicted the likelihood of an eruption in this formation.

Due to his special work along this line, he is particularly fitted to interpret all features of the present phenomenon.

The last outbreak at Mt. Lassen is the first indication of genuine heat. Hot stones were ejected from the crater of the volcano which set fire to timber. Such quantities of snow were melted that serious floods were caused in the valleys.

In the opinion of the officials of the Geological Survey, a catastrophe would have resulted had this region been populated densely, as is the case on the slopes of Vesuvius.

Some of the newspapers are claiming that this eruption is one of the press agent features of the Panama-Pacific Exposition. They claim it is being greatly over-played in the news dispatches sent out. The Government experts, however, declare that the eruption is one of consequence, and discourage excursions to the immediate vicinity of the mountain.

J. S. DILLER
Geologist who is studying eruption at Lassen Peak

GOVERNMENT IS TO SUPPLY INFORMATION SERVICE

In order to facilitate the distribution of information as to what the Government is doing, the Library of Congress is compiling a list of all Federal activities. Requests for information will be referred to the Librarian, who will indicate the exact person with whom to communicate to secure all desired information. This will save much useless work on the part of the Government employes, who are constantly receiving requests for data not available in their department.

PHOSPHATE DEPOSITS FOUND IN NORTHEASTERN UTAH

The existence of formations containing phosphate in what is believed to be commercial quantities in the Uinta Mountains in northeastern Utah, have been reported by a party of Geological Survey men. On the strength of this report a considerable territory has been placed in the reserve until it can be examined more in detail or until Congress can pass some law adequate to its disposal.

Heavy purchases of coal are being made by the Greek government in the United States. The present sentiment in Greece is decidedly favorable to the American products.

LARGE NUMBER OF PROMISING PATENTS RELATING TO MINING ARE ISSUED

Bit-Holder for Mining Machines Invented and Assigned to Jeffrey Manufacturing Company—Metals Recovery Company Gets Rights of New Ore Concentrating Apparatus

Patents of interest to the mining industry have been granted during the past month as follows:

Bit-holder for mining machines, No. 1,140,173. This invention is by Nils D. Levin, of Columbus, Ohio. It has been assigned to the Jeffrey Manufacturing Co. The invention deals with improvements in devices for attaching bits or cutters to the cutting chains or wheels of mining machines. An important advantage is claimed in the location of a wedge which lies substantially parallel to the line of movement of the machine. In the operation of a mining machine it frequently happens that the points adjacent to the cutters come in contact with external objects which may fall acidentally into the path of the moving parts. The arrangement of the wedges is such that accidental contact of the wedges with these external objects will serve to drive the wedges more firmly into their places.

TO REDUCE ORE

Crushing mill, No. 1,139,790. This invention is by James D. Millar, of Milwaukee. The invention is devised for the purpose of reducing small particles of ore and other substances to a finely divided state. Another object is to provide a mill in which the crushing action is produced between a pair of crushing heads, one or both of which are given a revolving motion so as to change from one active area to another. The crushing head is mounted on a spindle having an eccentric bearing. Arrangement is made for forcing a blast of air or fluid between the crushing heads.

PATENTS STRONG DRILL

Miner's Drill, No. 1,140,077. This invention is by Samuel T. Skeen, of Sandoval, Ill. The invention relates particularly to coal drills and is claimed to be an improvement on a former drill patented by Mr. Skeen. One of the objects of the new drill is to produce a strong drill structure. It also includes other improvements.

REDUCES VIBRATION

Power Rock Drill, No. 1,140,185. This patent is by Frederick P. Porter, of Kellogg, Idaho. The invention is designed particularly to provide a power rock drill of the hammer type adapted for drilling holes in the sides and roof of a mine. It is arranged with the idea of reducing vibrations to a minimum.

IRON ORE TREATMENT

Treatment of Subdivided Ores for Agglomerating or Reducing them and Apparatus therefore, No. 1,142,324. This invention is by Gustaf Gröndal, of Djursholm, and Herman Nilsson, of Nyhammar, Sweden. This invention is applicable more particularly to iron ore which is collected in the form of hard porus lumps. A furnace necessary for the carrying out of the method also is patented. The subdivided ore is moistened and packed in iron receptacles, having each end open. The mass of ore is provided with longitudinal channels through it. The receptacles are arranged in long series against a suitable fire place. The combustion products are led through the channels in the series of containers. As soon as the ore in the foremost receptacle has been treated sufficiently, the container is removed, and the remaining containers brought toward the burner. Another receptacle is filled with fresh ore and placed at the further end of the line.

HAS RADIUM PROCESS

Method of Treating Radio-Active Ores and Intermediate Products, No. 1,142,154. This invention is by Dr. Erich Ebler, of Heidelberg, Germany. The invention relates to a method of treating radio-active ores in raw sulphates, silicates, phosphates and other salts of radium and mesothorium. It consists in treating the materials with reducing agents and thereafter extracting with solvents for the radio-active salts formed by the reducing process.

GERMAN GETS PATENT

Manufacture, Islation, and Enrichment of Radio-Active Substances by Absorption from Solutions, No. 1,142,153. This invention is by Dr. Erich Ebler, of Heidelberg, Germany. The invention relates to the use of precipitated hydrated peroxide of manganese. The gel of the hydrated peroxide of manganese is a valuable absorptive material, as it has higher absorptive property for radium than for barium, if both these substances are present at the same time in the solution. The saving of the radio-active compound is described.

PORTABLE MILL

Rock-Crusher No. 1,142,116. This invention is by Edward H. Moyle, of Los Angeles. The invention is intended for use in pulverizing rocks and ores. The rock crusher first breaks the rock along the lines of least cleavage, it is claimed, then other crushings transform it into a pulverulent mass of desired mesh. The idea is to provide a simple device made of the fewest parts, and which are readily dissociable. The machine is said to have a minimum of bearings. It is convenient for transportation into the difficult places of access and is assembled quickly. A degree of fineness of the ore may be regulated during the operation of the machine. A device is provided with the intention that no material damage may be occasioned by the entry of any substance harder than that calculated for the cursching power of the jaws.

ASSIGNED TO LINK-BELT

Coal-Washer, No. 1,142,060. This invention is by Albert J. Sayers, of Chicago. The patent has been assigned to the Link-Belt Co., of Chicago. Various technical improvements have been included in this washer.

GETS CLEAVER CONCENTRATION

Magntic Ore-Separator, No. 1,141,833. This invention is by Sven Ragnar Salwen, of Grangesberg, Sweden. It has been assigned to the American Grondal Co., of New York. The invention is principally devoted to an improvement on an existing magnetic separator. The object is to construct the apparataus so as to obtain cleaner concentration, and a larger capacity than other separators of the same size, without increasing the losses in the tailings.

STOPS CAR QUICKLY

Mine Tipple-Car, No. 1,141,442. This invention is by John Cozilets, of Coupon, Pa. The invention relates to car brakes, and is especially adapted to use on tipple-cars, wherein the car is drawn up the incline by any suitable means. The brake on the car is so arranged that should the cable part, the brake would become effective and stop the car. It eliminates the human elements, once that it is locked in its serviceable position. Other minor advantages are claimed for the invention.

CONCENTRATING PROCESS

Ore-Concentrating Apparatus No. 1,141,377. This invention is by John M. Gallow, of Salt Lake City, Utah. It has been assigned to the Metals Recovery Co. The apparatus as designed by Mr. Callow, consists of a series of tanks or agitating chambers. His process is distinguished by usual amalgamation in that it relates more particularly to the flotation process, wherein a certain percentage of oil, or two dissimilar oils, or an oil and an acid, or an oil and an alkali, are mixed with finely ground ore pulp and the mixture then subjected to a violent agitation by means of mechanical propellors.

PORTABLE SCREEN

Coal-Cleaner, No. 1,140,999. This invention is by James R. Montgomery, of Frankfort, Kans. The object of the invention is to provide a portable coal screening apparatus especially designed for the use of local coal dealers for screening out coal before sending it to the customer, so that it is devilered free from dust. It also provides for the simultaneous screening and loading from the bin into a vehicle.

PATENTS BRIQUETS

Process for Converting Fine Coal into a Marketable Fuel, No. 1,140,735. This invention is by John Evans, of Melbourne, Victoria, Australia. The invention has been designed mainly to utilize the fine black Australian coal, which is a waste product, by compounding it with a binder, which is soluble in water, and then molding it under pressure in a suitable form, and finally giving it a coating which will permit of its being handled and stored. The coating also serves the purpose of protecting the fuel from moisture and loss of calorific value by atmospheric influence. Flour paste, starch, molasses and a mucilage made from grain are mentioned as binding materials. After molding, the fuel is passed through a chamber which is heated to 212° Fahrenheit. The coating is obtained by immersing the briquets in pitch, which forms its impervious coating. Afterwards a second heating which calls for a temperâture of from 400 to 500° Fahrenheit is resorted to. Immediately thereafter the coating is filled by a blast of cold air to solidify the coating. The inventor states that he is aware that pitch has been used for this purpose previously but other efforts have been too costly to permit of its proper use.

GOES TO PITTSBURGH COMPANY

Apparatus for Sintering Ores, No. 1,140,710. This invention is by Albert F. Plock, of Pittsburgh. It has been assigned to the Pittsburgh Metallurgical Co., Inc. The invention relates to apparatus used in sintering ores, flue dust, and similar finely divided materials containing carbon, sulphur, or other combustibles. Special features of the invention provide for the igniting of the oils and for the creation of a draft through the body of materials being sintered.

IMPROVES MINE CAR

Ore-Car, No. 1,140,497. This invention is by Wm. C. Carr, of Buffalo. The principal feature of the invention is an extremely quick acting and very efficient brake device which includes a series of flat brake shoes adapted to be forced into contact with the surface of the rails. It also endeavors to make equal the pressure on each of the shoes.

MAKES NOVEL BIN DOOR

Ore-Pocket Door No. 1,440,436. This invention is by Charles G. Baumgartner, of Chicago. The invention has to do with a door which rotates on a shaft which will permit the closing of an ore or other bin during the discharge of material.

MINER'S LAMP

Miner's Acetylene-Gas Lamp, No. 1,142,699. This invention is by Justus A. Gustafson, of Idaho Springs, Colo. The lamp embodies certain new features claimed to make it simple, compact and reliable, so as to be conveniently used by miners.

PATENTS JIGG

Ore-Treating Apparatus, No. 1,142,497. This invention is by Rubin Colvin, of Park City, Utah. The invention relates to improvements in ore treating apparatus, and has particular reference to the means for effecting the reciprocatory movements of tables embodied in such apparatus. An important object of the invention is to provide means for reciprocating a plurality of tables arranged side by side. This can be done by simple construction, it is claimed, and is strong, durable and not liable to derangements.

SCOURS ORE

Ore-Disintegrator, No. 1,142,462. This invention is by Leon St. D. Roylance, of San Francisco, Cal. The invention relates to improvements in the apparatus used in the disintegration of rebellious ores, and more particularly in that class of apparatus in which an electric current is used to effect or aid the separation of the metals and the disintegration of ores. The object of the invention is to provide simple, cheap and efficient apparatus for the purpose mentioned, in which means for agitating the ores undergoing treatment is included. Means also is provided for scouring the ores. A plurality of active disintegrating zones is arranged.

SPREADS MATERIAL

Shaker-Plate for Ore and Coal Washers, No. 1,142,434. This invention is by Moses James, of Lansford, Pa. The aim of the invention is to provide a shaker-plate so formed that in operation it will act to spread effectually the material being washed over a maximum area. This assures a more thorough washing of the ore or coal. Another aim is to construct a shaker-plate so that in operation it will create "life" in the material being washed. The invention also contemplates forming and arranging the riffles in the plates so as to strengthen the plate and prevent its sagging. Another idea of the riffles is to retard the material in its movement over the surface of the plate, thereby further assuring thorough washing. It is claimed that the riffle plate may be employed in treating ore or coal whether wet or dry.

NOVEL POWER CONTROL

Mining Machine and Truck, No. 1,142,348. This invention is by Edwin R. Merrill, of Columbus, Ohio, who has assigned it to the Jeffey Mfg. Co., of Columbus. The principal object of the invention is to provide an improved arrangement of controlling and power-transmitting elements, adapted for driving or retarding the truck wheels and cable reel with which the truck is equipped.

MINING TO GET SPECIAL ATTENTION AT CONFERENCE

Pan-American Scientists To Gather in Washington in December

Of great interest is the Pan-American Scientific Congress that will convene in Washington beginning December 27, and concluding its sessions January 8. Through the cooperation of the Latin-American countries, the second Pan-American Scientific Congress, likewise held under the auspices of the United States Government through the Department of State, bids fair to be not only thus far the greatest Pan-American Congress, but the most important international scientific congress ever held in the United States. The first congress of this name was held in Santiago, Chile, in 1908.

The present European war has brought the western hemisphere suddenly face to face with grave economic problems that invite the serious attention of scientists and experts in the various fields of applied science. The Scientific Congress will concern itself with the constructive discussion of these as well as with the contributions in the domain of pure science wherein great advance has been made since the last congress in Santiago, Chile. Science is comprehensively defined by the congress and includes, under nine heads, such main subjects as: Anthropology, astronomy, meteorology, and seismology; conservation of natural resources, agriculture, irrigation, and forestry; education; engineering; international law, public law, and jurisprudence; mining and metallurgy, economic geology, and applied chemistry; public health and medical science; transportation, commerce, finance and taxation.

The significance of the congress, through the importance of the above subjects, is enhanced greatly through the international reputation of the persons chosen to arrange for the program of the different sections of the congress, most of whom have an intimate first-hand acquaintance as well with the local resources, development and scientific interest in the various Latin-American countries.

THE NATION'S FUEL BILL

That the annual industrial fuel bill of the United States could be cut in two and at least $150,000,000 saved yearly through the use of modern improved steam engineering appliances and of the gas producer and gas engine, is the opinion of Horace C. Porter, chemical engineer of the U. S. Bureau of Mines, as expressed in a lecture delivered before the Department of Chemical Engineering at the University of Pittsburgh. To attain these results he said an increase of 8 per cent in the utilization of the energy of this coal would be sufficient. This increase, he declared, is entirely possible through the means mentioned.

"The Nation's coal bill," says Mr. Porter, "amounts to about $1,500,000,000 a year, or about $60 for each wage-earner." The following are other extracts from Mr. Porter's address:

"The United States is far ahead of other nations in coal production, having passed Great Britain, the nearest competitor, in 1899, and now surpassing her by nearly 100 per cent. Since we export very little coal and other nations export a great deal, our home consumption surpasses that of other countries by even a much greater margin. Our industries are greater, to be sure, but we must face the fact also that an abundance of fuel resources has made us careless of efficiency in their use.

"The 570,000,000 tons of coal produced in 1913 in the United States were used approximately as follows:

Domestic, 120,000,000 tons; other heating of buildings, 85,000,000; coke and gas, 75,000,000; locomotive and steamboats, 110,000,000; industrial power (including central power plants), 180,000,000.

"Scientifically the methods of utilizing coal may be classified into (1) combustion, (2) carbonization, and (3) gasification by partial combustion. Probably 80 per cent of the coal consumption in America comes under class 1 *i. e.*, it is directly burned in air, and we see therefore the great importance of improving practical methods and appliances for combustion.

"It is not an idle dream to look forward to the time when there will be many central power and heating stations in the form of large by-product coke-oven plants, placed at the mines or near large cities. As influences leading to this end, we may mention the following modern advances in long distance transmission of electric power, the increasing demand for and value of coal by-products for chemical purposes, the successful use of coke as a domestic and industrial fuel, the development of the gas engine, and the growth of public opposition to the smoke nuisance.

"Spontaneous combustion in stored coal results from this slow oxidation by the air at ordinary temperatures. It is not, in any important degree, a matter of bacterial action, or fermentation. When conditions as to the size of coal and manner of piling are such that the rate of heat production by oxidation is greater than the rate of heat loss by convection currents and radiation, the temperature rises. One of the most important practical considerations is whether an adequate air supply can penetrate to an inner section of the pile where the heat loss is slow. Fine slack coal does not heat seriously in the interior of a pile, if no lump is present. If, however, the interior of a pile consists largely of fine coal and the outer and lower sections of lump with very little fine, one of the worst possible conditions is maintained, and spontaneous fires commonly result from such a set of conditions.

"Deterioration of coal in storage is due to slow oxidation, not to loss of volatile matter. The deterioration in heating value is not as great as has commonly been supposed. With high-grade bituminous and semi-bituminous coals, careful determination has recently shown that this loss amounts to less than 1 per cent in one year's exposure to the weather, and less than 3 per cent in five years. With our middle western and western coals or lignites the loss is greater but probably does not exeed 4 or 5 per cent in one year in any case. Deterioration in size or physical character

may be somewhat more serious, and spontaneous heating, even though moderate in degree, causes very serious loss. Deterioration of any kind may be quite largely prevented by submergence storage under water."

POTASH DEPOSITS IN WEST RECEIVE SPECIAL ATTENTION

H. S. Gale and N. H. Darton, geologists of the Geological Survey, are engaged in the examination of outcrops and prospects in the different regions of the West and Southwest, where it is thought saline deposits exist, which possibly include potash in workable amounts. Mr. Gale is giving a part of his attention to the investigation of desert deposits in Nevada, California and Oregon. He will examine a large number of localities where discoveries of potash salts and nitrates have been reported.

Mr. Darton will continue his reconnaissance examination of "red beds" in Permian and Triassic in the Southwest, particularly in New Mexico. He will endeavor to locate centers of maximum desiccation and consequently of maximum deposition of salts in the "red beds" basin of Colorado, New Mexico, West Texas and Oklahoma. This work is being done with a view to determining, so far as can be done from a study of out-crops, the regions where potash deposits, if they are present at all in basins, would be most likely to occur.

WOMEN BEING TRAINED FOR MINE RESCUE WORK

By training women in first-aid work the Bureau of Mines believes great good will result in all mining camps following similar procedure.

In mine disasters in the past women of the camps have not been able to extend any great amount of aid owing to a lack of knowledge of the proper methods to pursue in resuscitating miners who have been overcome or who have been injured in explosions. By giving first-aid training to the women who desire it, an effective force will be on hand at all times to help when it is most likely to be effective.

Reports to the Bureau of Mines show that school teachers form the greater percentage of those taking this special training.

It is expected that this work will not be confined to routes of the Bureau of Mines rescue cars, but will be initiated by private companies or by the miners themselves throughout the mining regions of the country.

To Study Rare Minerals

Especial studies of platinum and manganese are soon to be started by the Bureau of Mines.

UTAH COPPER COMPANY HAS GOOD QUARTER

The total amount of ore treated by the Utah Copper Company for the first quarter of 1915 was 1,396,341 tons, being 361,038 tons more than for the fourth quarter of the year 1914. The average grade of the ore milled was 1.4393 per cent. copper, as compared with 1.5062 per cent. copper for the previous quarter. The average extraction for the quarter was 65.72 per cent., which was an improvement over the previous quarter, when the average was only 64.86 per cent. However, the extraction for the quarter was still somewhat low, on account of a portion of the copper values having been in the form of carbonates.

After making allowances for smelter deductions and without crediting miscellaneous income, the average cost per pound of net copper produced was 8.188 cents, as compared with 7.731 cents for the previous quarter. This increase in cost was due to winter weather conditions. If the net miscellaneous earning in Utah, including those from the Bingham & Garfield Railway, were credited to the cost of operations, the net cost per pound for the quarter would be 7.289 cents. There will be an improvement in cost during the second quarter of 1915.

Only the Magna Plant was operated at full capacity until the end of January when, owing to better business conditions and a greater demand for the metal, the partial operation of the Arthur Plant was resumed, and thereafter both the Arthur and Magna Plants were operated at approximately two-thirds of their normal capacity until the third week in March. The demand for the metal being still on the increase at that time, the output was increased to a basis corresponding to about 75 per cent. of normal, and on March 27 both plants resumed operations at their full capacity. Of the total tonnage treated during the quarter, the Magna Plant milled about 68 per cent. and the Arthur Plant about 32 per cent.

The usual difficulty of conducting surface operations at the mines during the winter season caused some delay to the stripping work. Nevertheless, there was removed from the entire property a total of 1,143,596 cubic yards of capping, as compared with 955,675 cubic yards removed during the fourth quarter of 1914, being an increase of 187,921 cubic yards. The average per month during the quarter was 381,199 cubic yards, as compared with 318,558 cubic yards for the previous quarter.

Under the conditions that prevailed throughout the quarter, the business of the Bingham & Garfield Railway was satisfactory. An average of 10,978 tons of ore per day was transported and an average of 2,134 tons per day of other freight was handled, making a total of 13,112 tons per day, as compared with 9,798 tons per day for the previous quarter.

The American Mining Congress

The American Mining Congress is a voluntary association supported by the dues and fees of its members. It is striving to bring about:

First—Safety and efficiency in mining operations.

Second—Intelligent conservation with a view to the highest development and use of our mineral resources.

Third—The stimulation of investment in practical mining operations by showing that mining is a legitimate business when intelligently conducted.

Fourth—Uniformity in state laws governing mining operations carried on under like conditions.

Fifth—Such federal co-operation through research and investigation as will furnish the basis for intelligent state legislation, and will solve those problems of economical production, treatment and transportation which are essential to an increase in mineral production.

Sixth—The improvement of the economic conditions underlying the coal mining industry.

If you are interested in this work, now is the time to help; do not wait until those who are now carrying the burden have become discouraged.

The appended application blank will show the way. Come in and bring the neighbor who should join this movement. Mail application to

THE AMERICAN MINING CONGRESS

Munsey Building, Washington, D. C.

THE AMERICAN MINING CONGRESS

APPLICATION FOR MEMBERSHIP

.....191.....

I hereby make application for membership in THE AMERICAN MINING CONGRESS and agree, if accepted, to abide by the By-Laws, Rules and Regulations of said organization and to pay the dues required by same.

Name.....

Occupation.....

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MEMBERSHIP FEE, $15.00 ANNUAL DUES, $10.00

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